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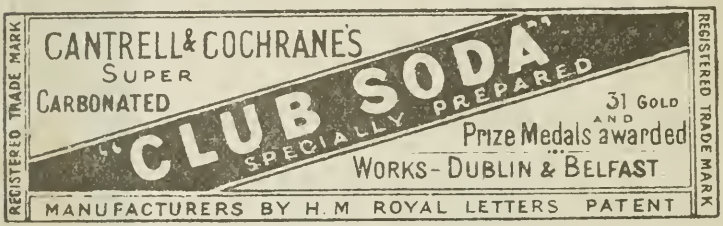

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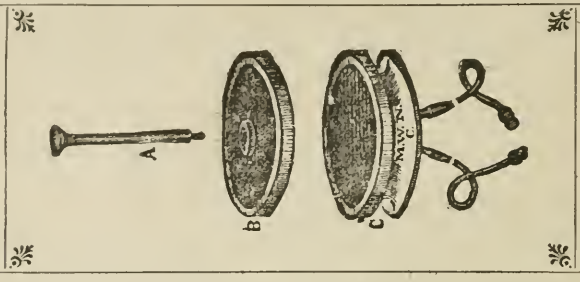

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2. The Edinburgh Medical Journal. Oliver and Boyd.
3. The Retrospect of Medicine. Edited by James Braithwaite. Simpkin, Marshall, and Co.
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DECEMBER 1, 1896.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Some Surprises and Mistakes.*[a] By WILLIAM THOMSON, President of the Royal College of Surgeons in Ireland; Direct Representative for Ireland on the General Medical Council; Surgeon to the Richmond Hospital, &c.

I FEEL to-night somewhat out of place in having transferred my seat from amongst the general audience to take, for a time, that of your President. I accept my new position with a full sense of its great honour and dignity; but I cannot help remembering that it has entailed my severance from the high office of General Secretary of this Royal Academy of Medicine, which I have filled since its foundation, and of which I have always been—as any man ought to be—very proud. The Fellows of this College have, however, called me to be their President, and in that capacity I begin to-night duties which will, I know, always be instructive to me, and I hope pleasant to all of us.

May I say a word thus early in regard to the attendance. I have sometimes noticed that our meetings were thinner than they ought to be, and that some who could confer much benefit upon us by their experience and their

[a] An Introductory Address delivered at the Surgical Section of the Royal Academy of Medicine in Ireland, on Friday, November 13, 1896.

incisive criticism have not always given us the help they might have given. As one grows older there is a tendency to take the rest of home after the increasing duties of the day have been performed. But we are never too old to learn—or, for that matter, to teach. And there is here, growing up about us, a younger generation—not, I hope, above taking note of some of the experiences of their elders by which they may profit in some way. We have a duty to discharge to them, just as we ourselves are debtors to our predecessors. May I, then, hope that in this respect our Session will be as bright and vigorous as many that have gone before, and that the meetings of the Surgical Section will continue to be as attractive as they have been.

I had intended, until a few days ago, to depart from the usual custom here, and to allow you to proceed at once to the ordinary business of the Section, because much pressure had prevented me giving attention to the subject-matter of an Address. But I learned that it was expected that I should say something in the way of formal opening of our Session; and so, in the hurry, I have gathered up a few facts which may not be without some interest to surgeons, and which I put under the title of "Some Surprises and Mistakes."

I think, as a rule, that most students have in their early days a good deal of trust in the sequence of events. They are enamoured by the newness of all around them in the hospitals; they have plenty of work to do, and those who do it have not time to be sceptical. They take what the books tell them so definitely, as though under no circumstances is it possible that there should be any deviation from the course of things as there described. Later on they have their faith disturbed as experience grows; but yet to the oldest of us there still remains a belief that under certain conditions certain things must happen. There is deep down in our minds the conviction "that when the brains wear out, a man must die, and there an end;" but how that is upset by our experience! There, for example, is the famous case of the man through whose frontal lobes a heavy iron jumper was driven by a blast,

and who recovered. I have seen a man who had lost a portion of his occipital bone, as large as the palm of my hand, and a cupful of brain substance, and yet years afterwards he did not seem to be anything the worse. It is true that these. what I may call "accidental experiments," have helped us to be less fearful of interference with the brain, but always with the exactitude which has been helped by deliberate research. Still, for the greater part, these rough tearings and bruisings of brain tissue are fatal; and even when with our later and better knowledge they are recovered from, they are "surprises." As our experience grows we encounter them. We—and I include physicians as well as surgeons—see cases which according to all rule ought not to live. The prognosis is, a fatal result; and yet they do well, and disappoint our certainties by their recovery. And then there are those cases which die, and we do not really know why. A man gets a scratch which ought not to hurt a child, and he dies none the less surely of shock than if he had suffered some terrible crushing injury of internal organs. What are the curious conditions in the two classes of cases—the powerful vital resistance, as we call it, in the one, which is effective against forces which we regard as unconquerable; and that other class in which vitality is so low and the nervous system so sensitive that it yields at once to what is almost a pretence of injury?

Just let me leave these suggestions for inquiry or speculation, and give you one or two examples of many which have come under my own notice. An old man was sent to me as suffering from appendicitis. He had had an attack, undoubtedly, but it had cleared up. The only signs remaining were a slightly raised temperature and a thin strip of dulness extending upwards to the iliac crest. I made an opening, and found a little pus and an extensive granulation-lined cavity. I scraped it out and drained in the usual way. All went well; but in about a week I was startled to hear that there had been a noisy discharge of flatus from the wound and a sign of fæces on the dressings. When I saw him there was no escape of gas, but the next day I found on the dressings a fæcal concretion quite like

a large nutmeg in shape and colour. Of course it had come from the intestine into the abscess cavity, and had perforated the gut wall. But how had this great mass passed through without leaving a large fistulous track, with fæcal extravasation and perhaps worse? There was never again any sign of escape of bowel contents, either solid or gaseous; and the patient, having been delivered in this way of his concretion, got quite well without further trouble. It is, I think, plain that, although the final act of extrusion took place when the flatus escaped, the opening in the bowel did not then correspond to the actual size of the concretion. Probably the gut at one point became identified by adhesion with the surrounding inflamed area, grasping and closing slowly behind the mass as it passed through into the external cavity. The escape of flatus came from what remained of the opening just before the final closure. Whatever the process, the result was one of those "surprises" that come to us, for the passage of so large a mass through the intestinal wall and its discharge externally, without causing any permanent mischief, shows what nature may do unaided by the surgeon's skill.

In the early part of this year I saw a gentleman who was suffering from a growth in the nose. I recommended him to see Dr. Woods, and I saw him later on with Sir Thornley Stoker and Dr. Woods. We came to the conclusion that he was suffering from a malignant tumour of the antrum which had extended to the nose. We recommended an exploratory operation, and, if our opinion was confirmed, that the jaw should be at once removed. He refused the larger operation. The exploration was made by Dr. Woods. We found that the tumour did extend from the antrum, into which I could bore my finger easily. Dr. O'Sullivan, Professor of Pathology in Trinity College, declared the growth to be a round-celled sarcoma. Of that there is no doubt. The tumour returned in a couple of months, and the patient then saw Dr. Sémon in London, who advised immediate removal of the jaw. He returned home, and after a further delay he asked to have the operation performed. I did this in May last, by the usual

method. I found the tumour occupying the whole of the antrum. The base of the skull was everywhere infiltrated. The tumour had passed into the right nose, and perforated the septum so as to extend into the left. It adhered to the septum around the site of perforation. This was all removed, leaving a hole in the septum about the size of a florin. He went home within a fortnight. In a month the growth showed signs of return. It bulged through the incision and protruded upon the face. Dr. Woods saw him soon afterwards, as I had declared by letter that a further operation would be of no avail. The tumour had now almost closed the right eye. It was blue, tense, firm, lobulated, but it did not break. Dr. Woods reported the result of his visit to me, and we agreed as to the prognosis. Early in October the patient walked into my study after a visit to Dr. Woods. He looked in better health than I had ever seen him. The tumour had completely disappeared from the face, and I could not identify any trace of it in the mouth. He said he had no pain of any kind. He could speak well when the opening remaining after the removal of the hard palate was plugged, and he was in town to have an obturator made. He has since gone home apparently well. He told me he had applied poultices of comfrey root, and that the swelling had gradually disappeared.

Now this was a case of which none of us had any doubt at all, and our first view was confirmed by the distinguished pathologist whom I have mentioned and by our own observation at the time of the major operation.

Here, then, was another "surprise." I am satisfied as I can be of anything that the growth was malignant and of a bad type. Of course we know in the history of some tumours that growth is delayed, and that in the sarcomata recurrence is often late. But this is a case in which the recurrence occurred twice—the second time to an extreme degree; and yet this recurrent tumour has vanished. What has produced this atrophy and disappearance? I do not know. I know nothing of the effects of comfrey root, but I do not believe that it can remove a sarcomatous tumour. Of course the time that has so far elapsed is

very short; but the fact that this big recurrent growth no longer exists—that it has not ulcerated or sloughed away, but simply, with unbroken covering, disappeared—is to me one of the greatest "surprises" and puzzles that I have met with.

But let me turn to the other topic upon which I have still to speak to you—"mistakes." I confess to having made some in my life. It is often complained that we hear much of the successes of surgery and medicine, but little of the failures and hardly ever of the errors. I am not ashamed to say that I have erred in diagnosis, and I know that I have seen others blunder too. When one is in that unpleasant predicament it is satisfactory to know that he is in good company—always supposing that the patient does not suffer from his default. I am afraid that there are none who can truly claim omniscience, although they sometimes look as if they did. But so long as Surgery is what it is, errors will be committed; and perhaps it would help to make them less if we were only courageous enough to say so; to point out wherein we failed, and to give some warning to others which might help to save them from mistakes.

In 1892 a gentleman consulted me for a bad throat. He was seventy-five years of age, and his story was that his throat had been sore for about two months. He spoke with a marked nasal tone. I found the right soft palate and a considerable part of the hard palate occupied by a malignant-looking flattened growth projecting from the surface about an eighth of an inch. There was an ulcer on the free margin of the palate extending to the tonsil. Externally, at the angle of the jaw, was a mass of enlarged glands, fixed, and without pain. There had been a good deal of sanious discharge from the nostril, and the posterior naris was blocked by pressure of the engaged tissues. The structures over the alveolar process of the upper jaw, at the posterior part, were infiltrated and resisting. I had no doubt that it was a malignant growth, and I said so. I advised that nothing should be done save the use of a simple antiseptic lotion. Two months later I had a letter to say that a necrosis had set in in the parts, and that the

whole engaged structures had sloughed away. The fœtor was described by Dr. Rutherford as so abominable that he could not stay in the room many minutes. But in the result the ragged chasm left granulated and healed, and the patient is alive to-day at the age of seventy-nine.

Now here was a "mistake," fortunately corrected by nature. I had no doubt that my diagnosis was right, but it must have been wrong. Sometimes, it is true, such endings have been noticed in the case of sarcomatous growths, but this was, I believed, an epithelioma, and I have not heard of such happy endings in cases of that class. I can only say that probably others would have judged as I did, and that the evidence seemed strong enough to justify my opinion. But although the growth presented the ordinary clinical characters of epithelioma, and gave evidence of secondary deposit, it is, I think, obvious that it was not of that character. The possibility of its having been a gumma, which ultimately broke down and sloughed away, is, of course, to be considered, although in the particular case I have reason for believing that there was no syphilitic history. Still I regard it as an error, and I have so scored it against myself.

Our Secretary, Mr. Lentaigne, will remember that when he was House Surgeon at the Richmond he called me to see a case of supposed strangulated labial hernia. The woman had been admitted the night before suffering from symptoms which had come on suddenly. She had had a lump in her groin which had suddenly become larger, painful, and tense, and then there followed vomiting and great prostration. A short examination was made. The tumour extended from the external abdominal ring into the left labium, and it was so tense that I at once ordered her to be brought to the theatre, where, under an anæsthetic, I was able to make out the presence of fluid, and I felt sure that I had to deal with a strangulated hernia, with an excessive quantity of serum in the sac. Others concurred in that view. I ventured to say, however, from the general appearance of the tumour, that if the patient were a man I should call it a hydrocele. A free incision soon settled the doubt, for hydrocele fluid gushed out with great force.

There was no hernia at all. The case was a hydrocele of the canal of Nück, of which I had never then seen an example, although I have seen two since. But although the case was an obscure one, and the symptoms lent colour to the original diagnosis, it was a "mistake," but a mistake which has served me well since that time.

Once, with the concurrence of my colleagues, I removed what I supposed to be a testicle, and which turned out to be a hydrocele. The man had had for some time a swelling on the left side. He had often been tapped, and had been so treated immediately before I saw him. He had a large oval tumour, slightly irregular here and there. It occupied the whole of the left side of the scrotum. It was very solid and resisting. There was no normal testicle to be made out. When I had removed it I found, on section, that it was a hydrocele sac more than half an inch thick, filled with old blood clots. The epididymis was spread out over it like a thin membrane, and could be recognised only with difficulty, and the testicle was atrophied almost beyond recognition. His comfort was added to by the operation; yet there remains the fact that we did not recognise what was the real condition of things.

I will not occupy your time by giving details of any more cases; but I could tell you of patients who have been condemned by others as having malignant disease, and who are still alive years after the pronouncement; of scirrhus of the breast, many times, which has proved to be nothing worse than a chronic abscess or an adenoma; and of abdominal tumours which, on exploration, have been declared by the most experienced and wise surgeons to be cancerous, while the patients have belied the diagnosis by living for many years in comparative health.

In the few cases I have noted in this discursive way I have mentioned the most interesting — those from which some instruction may be gathered by others as it has been by me. As one grows older and gets beyond the trammels of the books, he realises one or two things very sharply—the fact that our diagnoses have reached a very high standard of accuracy, and the other fact that there is still a percentage of cases in which the symptoms

are so confusing, that mistakes must be met with if we bind ourselves to a definite opinion. Still there are some which ought not to be made if examination is thoroughly carried out. And, therefore, the lesson which we should seek to teach in this matter is—thorough and painstaking searching-out of the meaning of signs and symptoms.

There are some cases which are so plain to the experienced surgeon that he can readily come to a decision. Probably he will be right in the majority of instances. But I have seen this facility grow into a dangerous habit. I have no respect for what I may call "snap-shot diagnosis." The first glance almost may be enough to settle the question at issue, but nevertheless the opinion then formed ought to be made as sure as possible by the careful and systematic examination of the patient. We should cultivate this habit ourselves, and we should teach our pupils how to acquire it and practise it.

Whoever has examined much at the bedside knows how often the candidate seems to want the most elementary knowledge of how to examine a patient; and personally I should estimate more highly the student who knows how to set about finding out the disease, although he might in the end be wrong, than of a diagnosis which chanced to be correct without sufficient justification for it.

I have to apologise to you for these most desultory words; but I hope that, although they may not present much that is new to many in this Section, they may have the effect of impressing upon others that we are not omnipotent or omniscient. There is no one who, if he has seen much work, can claim to be free from mistakes. They dog the steps of the best of us. He will do well who recognises this early and tries to learn the important truths they teach—that we must not rely upon any inspiration to help us to a diagnosis, but that it must be reached, if at all, by means which are open to everyone—the diligent seeking-out and the just weighing of facts.

ART. XIX.—*Successful Operation for a Case of Pulsating Tumour of the Temporal Region of Eighteen Years standing.*[a] By Professor C. YELVERTON PEARSON, M.D., F.R.C.S.E.; Surgeon to the North Charitable Infirmary and City of Cork Hospital, &c.

CASE.—W. A M., male, aged forty-five, grocer, married, residing in Cork, admitted to North Charitable Infirmary, October 15th, 1894.

Family history.—Father died of liver disease, mother of paralysis; both at an advanced age. Patient has nine children—seven boys and two girls—all healthy. The eldest, a boy of eighteen years; the youngest, a boy of eighteen months.

Previous illness.—Had rheumatic fever when fourteen or fifteen years of age; also had scarlatina and measles. Otherwise healthy up to onset of present affection.

History of present affection.—About eighteen or nineteen years ago got a fall from a horse, and struck his head, but does not remember noticing any special injury at the time. A few months afterwards felt pain in left frontal and temporal region, which was at first of a dull character, but which gradually became more intense, and has continued ever since. Also complained of dizziness and a sensation of fulness in the head on stooping. Also noticed, at a somewhat later period, a swelling of the left temporal region, of a throbbing character, which has increased very gradually. In the course of about two years from the onset the pain, fulness, and dizziness became so great, on stooping forwards, that he was obliged to give up his business. He consulted several doctors, both in Ireland and England, and was treated chiefly by external applications, and advised to take plenty of fresh air. Only one medical man recommended an operation.

About three years ago he presented himself at the out-patient department of the North Infirmary, when he first came under my observation. I investigated his case very carefully at the time, and came to the conclusion that the swelling was of an aneurysmal character, most likely of traumatic origin, and, probably, associated with some intra-cranial mischief of a vascular nature. A consultation was held at the time with some of my colleagues, and it was not considered advisable to employ operative measures.

[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, January 10, 1896.

Dr PEARSON ON PULSATING TUMOUR.

F. Huth, Lith. Edin.

He was, accordingly, treated with iodide of potassium, bromides, and, subsequently, digitalis, with a slight degree of temporary relief of his most distressing symptoms, but no permanent benefit, and disappeared after a time.

He again presented himself in October, 1894, and described his condition as being so unbearable that he implored to be admitted for operative treatment.

His condition on admission was as follows:—Average height; fairly stout; dark complexion; head proportionately large; appearance healthy; fairly intelligent, and mentally sound; but in depressed spirits on account of his malady. Thoracic and abdominal viscera healthy, and all bodily functions satisfactorily performed; but did not sleep well, owing to pain and throbbing sensation in the head.

Symptoms.—Constant headache and dizziness; cannot stoop forward without feeling giddy, and is unable to look upwards or throw the head backwards without feeling great pain. The pain is chiefly located in the left frontal and anterior temporal region. There was total incapacity for physical or mental occupation.

Physical signs.—There is a uniform swelling of the left temporal region, with perfectly smooth surface, convex, bounded by the temporal ridge and zygoma. The superficial temporal artery, in a much dilated and tortuous condition, can be easily recognised on the surface, as seen in the accompanying photograph. The tumour is soft on palpation, but has distinct pulsation of an expansile character. This pulsation cannot be arrested or even perceptibly affected by digital compression of the temporal artery or simultaneous compression of the temporal against the zygoma and its branches of distribution above the seat of the swelling. On careful palpation an irregular fissure, about a quarter of an inch in its longest diameter, can be felt near the margin of the swelling, about one inch and a half above and behind the external angular process of the frontal bone, and, probably, situated in the coronal suture. Pulsation cannot be arrested by making firm pressure over this fissure, but is somewhat diminished by making pressure on the tumour itself. The pupils are equal, and respond normally to light. Ophthalmoscopic examination showed the existence of a choked disc and some optic neuritis on the left side, and increased vascularity of the right fundus.

Differential diagnosis.—The possible pulsating tumours of this region are—Hernia of the brain or its membranes; fungating tumour of the dura mater; pulsating tumour of the bones; malignant growths; and aneurysms. Malignant growths were

excluded by the duration of the symptoms and the very gradual increase in size; hernia cerebri and meningocele by the absence of symptoms on pressure, and the very small extent of the fissure in the cranial wall; fungus of the dura mater by the slow progress, the well-defined boundaries of the swelling, and the firmness of the bones beneath; hence the conclusion that the tumour was of an aneurysmal character. The question, however, arose as to the precise nature of the aneurysm. Owing to the smooth surface and anatomically defined margin of the tumour, the absence of diminution in pulsation and size on compressing the temporal and its anastomotic connections, and the existence of intra-cranial symptoms, I formed the opinion that, in all probability, the tumour was a false aneurysm circumscribed by the temporal fascia and muscle with intra-cranial vascular connections, and, therefore, probably supplied by the middle meningeal or deep temporal arteries, or by both.

Owing to the sufferings of the patient, his inability for work, and his own personal solicitations, an operation was determined upon, and was accordingly performed as follows:—The superficial temporal artery was exposed by a small incision immediately above the zygoma, and ligatured. A curved incision was made along the line of the temporal ridge, commencing a little in front of the coronal suture, and terminating below and behind at the posterior root of the zygoma. The integuments were reflected downwards and forwards and the temporal fascia was laid bare. The temporal fascia was then carefully divided over the centre of the tumour and reflected, when a highly vascular and convoluted mass was disclosed, bearing considerable resemblance to the living brain and its membranes when the dura mater is removed. On close inspection this mass was found to consist of very large and tortuous thin-walled vessels, which freely anastomosed. An attempt was made to ligature the larger vessels at the circumference, but, after a few trials, this was found to be unsatisfactory, as the walls of the vessels were so thin that they would not bear the pressure of a ligature or forceps, and the hæmorrhage was exceedingly copious. I then determined, with the consent of Professor O'Sullivan, who rendered me valuable assistance throughout the operation, to attempt its removal with the Paquelin's cautery knife. This I proceeded to do from behind forwards, keeping close to the bone. Very little trace of the temporal muscle was recognisable, its place being occupied by blood-vessels. Numerous small vessels were encountered issuing from apertures in the bones. On reaching the fissure previously referred to the hæmorrhage that took place was truly

appalling, and could not be completely controlled by direct pressure combined with pressure on the carotid. One very large and several smaller anastomosing vessels issued through the aperture, which was situated in the coronal suture, about $\frac{3}{4}$-inch above the anterior-inferior angle of the parietal bone. The hæmorrhage was, however, successfully arrested by inserting a cautery in the fissure at a dull-red heat, and maintaining it in that condition for some minutes. The tumour having been removed, and all hæmorrhage having been checked by application of the cautery at all the necessary points, the integuments were replaced and sutured, except where drainage tubes were inserted at the posterior and lower portions of the wound. Careful graduated pressure was applied, especially over the region of the fissure.

My original intention, if found feasible, was to trephine the skull after dealing with the intra-cranial tumour, but, owing to the conditions I have described, I think you will agree with me that such a proceeding would have been rash and unjustifiable.

The progress of the case subsequent to operation was very satisfactory. There was no secondary hæmorrhage, of which I had considerable fear. The scalp wound united by first intention, except at the seat of the drainage tubes, through which some suppurative discharge took place for a fortnight—no doubt owing to the free use of the cautery.

The patient experienced very great relief from his symptoms very soon after the operation, and slept remarkably well. He left the hospital November 24th, feeling wonderfully well, and with the intention of again engaging in business of some kind.

The points which I consider specially worthy of debate in this case are the following :—

1. The probable origin of the tumour.

2. Was it possible to diagnosticate the precise nature of the aneurysm previously to operation?—the cirsoid condition of the superficial temporal being suggestive of aneurysm by anastomosis.

3. Was an operation advisable or justifiable?

4. What was the probable intra-cranial condition? I believe it to have been an aneurysm by anastomosis of the meningeal blood-vessels.

5. I may point out that the bones themselves were perfectly healthy, and, therefore, the case was not of the nature of a pulsating bone tumour.

Since reading the above paper at the Academy I saw the patient. He said he was perfectly well, and was looking out for occupation. He was perfectly free from head symptoms. Hence, I think I am justified in concluding that there was no intra-cranial aneurysm, and that the head symptoms were due to the dilated condition of the middle meningeal itself.

ART. XX.—*The Discovery of Modern Anæsthetics.* By GEORGE M. FOY, F.R.C.S., Surgeon, Whitworth Hospital, Drumcondra; Hon. Fellow of the Southern Surgical and Gynæcological Association, U.S.A.

THE genesis of modern anæsthetics is found in Priestley's Discovery of Oxygen. All attempts to produce anæsthesia prior to that brilliant discovery were unsatisfactory. With the introduction of "factitious airs," there arose a hope in the minds of certain members of the medical profession that in pneumatic medicine there was to be found a remedy for the greater number of diseases. Of those who held this view the most enthusiastic and one of the ablest was Dr. Thomas Beddoes. No man of that day was better fitted for the task than Beddoes, whom Humphry Davy, in 1798, described as "one of the most original men I ever saw . . . extremely silent, and, in a few words, a very bad companion."

Beddoes was fully abreast of the medical and chemical knowledge of his day. Whilst yet a medical student he translated Spallanzani's "Dissertations on Natural History," Bergmann's "Essays on Elective Attractions," and Gimbernaut's surgical monograph on "Hernia." From being the pupil he became the friend of Cullen, Black, and Lavoisier. He qualified as a Doctor of Medicine in 1786, and soon afterwards translated Scheele's "Chemical Essays," and in 1790 published "Chemical Experiments and Opinions," in which he endeavoured to obtain justice for the views and discoveries of Dr. Mayow in pneumatic chemistry; and to fully realise Black's objection to Sthal's theory of phlogiston he learned German. In 1792 he voluntarily resigned the position of reader of Chemistry in Oxford, of which he had been six years in possession, his Republican

ideas having given offence to the university authorities. His success at Oxford as a lecturer was unparalleled. "The time of his residence there," says one of his pupils, "was a brilliant one in the annals of the university, and produced a taste for scientific researches that bordered upon enthusiasm."

The Hotwells Hospital was founded soon after his resignation at Clifton, Bristol, by the aid of a few friends, and made such rapid progress in public favour that Dr. Beddoes soon required an assistant to superintend his laboratory. This led, in 1798, to the appointment of Davy, whose introduction was brought about in the following fashion :— Associated with Dr. Beddoes in the hospital was Mr. James Watt, the Engineer, whose son, Mr. Gregory Watt, took a great interest in pneumatic medicine, and was a frequent visitor to the hospital, as were the Wedgewoods, Southey, Coleridge, Wordsworth, Priestley, son of the discoverer of nitrous oxide, Tobin the dramatist, for whose five-act comedy Davy found time to write the prologue, and the Edgeworths. Mr. Gregory Watt was of a weakly, consumptive habit, and in 1797 he was ordered to winter in Penzance where he lodged with Mrs. Davy, a widow, boarding with the family. He met Humphry Davy, two years his junior, at the family table, and was pleased with the enthusiasm and diligence of the apprentice of Mr. Bingham Borlase, Apothecary and Surgeon, who had already mastered Lavoisier's "Elements of Chemistry."

Mr. Gregory Watt, finding benefit from the air of Penzance, and liking the Davy family, remained with them until the following summer. On his return to Clifton he suggested the engagement of Mr. Humphry Davy to Dr. Beddoes, and his recommendation was warmly supported by Mr. Gilbert, of Penzance, who had more than a local reputation as a chemist.

Mr. Humphry Davy was released from his apprenticeship by Mr. Borlase, who wrote on the back of his indenture that he released him from "all engagements whatever on account of his excellent behaviour," adding "because being a youth of great promise, I would not obstruct his present pursuits which are likely to promote his fortune and his fame."

He describes his journey to Bristol as "uncommonly

pleasant . . . Came into Exeter in a most joyful time—the celebration of Nelson's victory. The town was beautifully illuminated."

During the years immediately prior to Davy's arrival research had been pushed forward diligently at Hotwells.

On referring to Dr. Beddoes' book—"Considerations on the Medicinal Use, and on the Production of Factitious Airs"—we find that he had been experimenting on the lower animals with factitious airs from 1793, and that in 1794 he was freely using the different gases as therapeutic remedies as were Drs. Carmichael, Darwin, Ewart, Ferrier, Gamet, Johnstone, Pearson, Thornton, Trotter, and Withering.

An experiment to determine the physiological effect of oxygen was performed early in 1793, and is attested by Messrs. Machell, Edgeworth, Guillemard, Sadler, and Beddoes. A large number of cases is given of the good effects of the inhalation of oxygen gas in different parts of the country, and this method of treatment became popular. Almost every volatile substance came to be tried, and amongst others ether. Cullen in his lectures, which Beddoes attended, recommended the vapour of ether as a local anæsthetic. The 1772 edition of his lectures gives full particulars for the use of the anæsthetic, and enumerates the class of cases in which he found it useful. Throughout Scotland ether came to be used by inhalation. Morris, of Edinburgh, writing in 1807, declares that—"In catarrhal and asthmatic complaints its vapour is inhaled with advantage." In England it was looked on with suspicion, for whilst Cullen was recommending it in Edinburgh, Lewis, of London (1768), writes—"It has hitherto been regarded chiefly as a matter of curiosity, nor are its medicinal qualities as yet much known"—a prejudice which Beddoes did much to overcome.

Dr. Pearson, writing to Beddoes from Birmingham on the 2nd of February, 1795, says—"In my little publication I can scarcely call anything my own, but the observations on the *vapour of ether*, of the probable use of which . . . your considerations on factitious airs first gave me the idea."

In "Practical Synopsis" he writes:—"The vapour of vitriolic ether, whether pure or impregnated with cicuta, drawn into the lungs three or four times a day, has

SIR HUMPHRY DAVY, Bart.

been found serviceable in cases of catarrh, phthisis pulmonalis, whooping cough, and croup. At each inhalation two or three teaspoonfuls of ether are used," and he refers the reader to Beddoes' writings.

And in a pamphlet published in 1795:—"Under proper management, the application of modified airs to the lungs is perfectly safe and easy. The mixed airs are breathed out of bags, and no trouble or exertion is required on the part of the patient. That some of them possess very powerful and active properties is no objection to their use, for the same may be said of opium, and certain preparations of antimony and mercury, which are daily prescribed, and which only do mischief in the hands of unqualified persons. These airs, like all other medicines, may be overdosed, but practitioners who are acquainted with their effects, will take caré that they are not too freely or too frequently applied. With such precautions, they may be pronounced to be as safe as most other medicines." He then adds:—"In consequence of the success which has already attended the medicinal application of factitious airs at Bristol and other places, a proposal has been made for the establishment of a Public Pneumatic Institution in London, for which subscriptions are now opened in this (Birmingham) and several other towns. Apparatus for obtaining the different kinds of airs have been introduced into the hospital and dispensary here (Birmingham), and in process of time, when the preparation and uses of these elastic fluids come to be generally understood, we may expect that these apparatus will be found in the laboratories of most of the apothecaries. Physicians will then have opportunities of prescribing the pneumatic treatment in all cases in which they may judge it to be proper."

From the above we see that the pneumatic treatment was known and practised years before Dr. Beddoes knew of Mr. H. Davy's existence, and that almost all gases and volatile substances were being experimented with is abundantly clear from the medical records of the time.

Nor was Beddoes indifferent to the question of anæsthesia; he recognised that carbonic oxide gas stopped the pain of a blistered finger. He thus describes the experiment:—"The

celebrated Dr. Inganhouse, in a letter dated August 4th, 1794, mentions to me a curious experiment 'which,' says he, 'if it be a real fact, throws a great deal of light upon your system; it is this:—Blister your finger so as to lay bare the naked and sensible skin, the contact of air will produce pain; put your finger into vital air, and that will give more pain; introduce it into fixed or azotic air, and the pain will diminish or cease.' Dr. Webster, he adds, was informed of these circumstances by a Frenchman whose name does not appear. I had often heard them indistinctly related, and it is rather surprising that the fact had not been ascertained. Much of the art of modern surgery consists in keeping the air from wounds and some kinds of ulcers, and this last fact, if the account be true, pretty decisively shows which ingredient of the atmosphere is injurious.

"I applied a blister an inch long and half an inch broad to the back of the third finger of the left hand. When the pain from the action of the cantharides entirely ceased, I cut away the scarf skin of the vesication, and was sensible, the moment the air was admitted, of a sharp, smarting pain. This did not continue so severe, but the exposed true skin sensibly smarted. Upon tying the neck of a bladder containing carbonic acid air from heated chalk round the root of the finger, the pain very soon subsided. While I kept my finger in carbonic acid air, which was near half an hour, I should not have known it received any injury."

And he adds:—"I have lately seen cancerous patients treated by the application of unrespirable air, with the most astonishing success. In mentioning to Dr. Black the introduction of factitious airs into the Bath hospital, as a source of hope, I did not so soon expect an event which ages and nations have desired in vain."

We now come to the employment of Davy and his first introduction to nitrous oxide gas experiments.

Contemporary with Beddoes was one Mitchell, a chemist, who published a Text-book on Chemistry in 1798, in which he asserted that nitrous oxide gas was a virulent poison, the probability being that his experiments were made with an impure sample; as he followed the earlier method of Priestley in its manufacture—exposing nitric oxide gas to the action

of iron. Mitchell's statement greatly puzzled Beddoes, who had used oxygen gas and nitrogen gas, separately and mixed, without unpleasant results, and had the result of Mr. James Watt's experiments with nitrous oxide, which corresponded with his own. Watt, on the 7th of October, 1794, writes of the inhalation of the gas—"I had a slight though uncommon nausea, attended with some elevation of spirit all that evening, but no heat or thirst." With a suitable apparatus devised by Mr. James Watt, Beddoes decided to repeat Mitchell's experiments, and one of the first duties of Mr. Humphry Davy was the preparation of nitrous oxide gas. In a letter from Davy to Mr. Gilbert, dated April 10th, 1799, he writes—"The gaseous oxide of azote is perfectly respirable. . . I breathed to-day, in the presence of Dr. Beddoes and some others, sixteen quarts of it for near seven minutes," and he adds, "We have upwards of eighty out-patients in the Pneumatic Institution, and are going on wonderfully well."

Dr. Beddoes gave the result of the experiments to the world in Nicholson's Journal, and the institution became more than ever popular. "Laughing gas" became fashionable. Davy calculated that an exhilarating dose of the gas could be supplied for 2d., and it came to be so generally used as to be described as a national vice, and was the subject of a cartoon by Gillray. In all stages of depression or pain, the gas was resorted to as a remedy. Beddoes found it efficacious in arresting the pain of toothache. Davy took it to get poetic inspiration, and, finally, to cure the pain of a cutting wisdom-tooth, and finding it stopped the pain declared that—"As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

Davy's first experiment with nitrous oxide gas was made on the 9th of April, 1799, five years after its discoverer, Priestley, had sailed for America.

The inhalation of the gas quickly became a pastime in the Hotwells Hospital. Maria Edgeworth, who was on a visit with her sister, Anna, Mrs. Beddoes, writes:—"A young man, a Mr. Davy, at Dr. Beddoes', who has applied himself much to chemistry, has made some discoveries of importance, and

enthusiastically expects wonders will be performed by the use of certain gases, which inebriate in the most delightful manner, having the oblivious effects of Lethe and, at the same time, giving the rapturous sensation of the Nectar of the Gods! Pleasure even to madness is the consequence of this draught."

Davy's knowledge of chemistry when he came to Beddoes may fairly be estimated by his two essays in "Contributions to Physical and Medical Knowledge," published in 1799. Of them Dr. Thorpe writes: "Now-a-days such writings would hopelessly damn the reputation of any young aspirant for scientific fame, for it is indeed difficult to believe, as we read paragraph after paragraph, that their author had any real conception of science, or that he was capable of understanding the need or appreciating the value of scientific evidence."

The opportunities for study in the Hotwells Hospital were not lost on Davy, and his later papers to the journal of "Physical and Medical Knowledge" are very different to his first crude contributions of 1799.

Fortunate in having voiced the views of Beddoes and his fellow-workers on the anæsthetic properties of nitrous oxide, Davy to-day receives the credit of having discovered them, and to the general public the name of Thomas Beddoes, the real discoverer, is practically unknown. Beddoes, the chemist, physician, philanthropist, is almost forgotten, although it was in his laboratory and in his hospital that modern anæsthetics were born.

The engagement of Mr. Davy left Dr. Beddoes more time for the study of consumption, the cure or prevention of which was the labour of his life. Thus he writes in "Hygeia:"—"Should it be asked, in what manner is the existence of every person born and continuing to reside in the British islands most likely to terminate, the following table will supply the answer."

He then gives the years' bills of mortality, that for 1799 show that of 23,068 deaths, 5,721 were from consumption, 2,712 from fevers, and 2,400 from smallpox. Thus when Beddoes was engaged in the all-important study of the therapeutics of consumption, Mr. H. Davy, in testing the accuracy of Mitchell's experiments, had forced on him the

knowledge of the anæsthetic properties of nitrous oxide, and in a happy moment published the fact.

Mr. Humphry Davy's later papers on chemistry attracted the notice of Mr. B. Thompson, better known by his German title, Count Rumford, who offered him the post of Assistant Professor of Chemistry in the Royal Institution, London, of which he was the founder. Davy was liberated from his engagement by Beddoes, and accepted the appointment, in succession to Mr. Thomas Garnett.

In the first year of the century, 1801, Mr. Davy commenced those brilliant lectures on which his great reputation rests; but from 1801 anæsthetics found no place in his studies.

The inhalation of nitrous oxide gas came to be a pastime with the fashionable and idle loungers about town; and its production after a time was discontinued by Beddoes, who, failing in health and disappointed in not realising his hopes in pneumatic medicine, died broken-hearted in 1808, in the forty-eighth year of his age. Writing to Davy from his death-bed he describes himself as "one who has scattered abroad the *avena fatua* of knowledge, from which neither branch, nor blossom, nor fruit has resulted."

But his talents were not altogether unrecognised. An obituary notice in the *Edinburgh Medical and Surgical Journal* thus concludes:—"The reputation of Dr. Beddoes as a physician has not yet attained so high a rank as it deserves. There is an ardour of talent, an animating earnestness, a stimulant exaggeration in his writings, well adapted to rouse the torpor and provoke the attention of medical readers. He had the mind of a poet and a painter, and displayed the power of his imagination in vivid representations of facts and theories. He was a pioneer in the road to discovery."

"I feel," wrote Coleridge on hearing of his death, "that more had been taken out of my life by this than by any former event."

"From Beddoes," wrote Southey on the same occasion, "I hoped for more good to the human race than any other individual."

In America, as in England, the inhalation of the gas

became a popular amusement, and the name "laughing gas" tells that, for a time at least, the medicinal properties of the oxide were forgotten. How common the exhibition of laughing gas became is shown by Dr. Oliver P. Hubbard's paper, read before the New York State Medical Association on the 9th of October, 1888, to wit:—

"About sixty-seven years ago Dr. Stockman, a German druggist of Utica, came to Rome, Oneida county, to exhibit the well-known effects of its inhalation to a large number of people, on the evenings of November 5, 6, and 7, 1821, in the hotel and county courthouse. On the first evening occurred an incident still fresh in my memory, which I have frequently cited to my classes. I have sought in vain to discover a record of a case of an earlier date. I have always intended to publish this case, and during these years, to fortify my own impressions, I have procured from living witnesses written confirmation of all my recollections.

"My elder brother, William G. Hubbard, then sixteen years old, was present at Dr. Stockman's exhibition, and was one of those who took the gas. On the 14th of October, 1852, I wrote to him at Elgin, Ill., sending a copy of entries made at the time in my school journal, and adding, in substance, 'Now I will relate from memory. On the first evening, when the exhibition was closed (the doctor saying there was no more gas), and while many were standing around the fire talking over the occurrences, the doctor went into the dressingroom on the north, and found a young man lying on the floor close by the gasometer, entirely senseless.

"'He had gone in stealthily, turned the stop-cock, and taken his fill, and here was the legitimate result—a case of complete anæsthesia, probably the first by this means ever authenticated.

"'The alarm was great. Death seemed imminent, if not present. He was lifted with difficulty by two persons, one under each arm, and brought into the large ball-room; and, after long and anxious suspense, he came to his natural state unharmed. How long he had been under the influence of the gas could not be known, for "the sweet was stolen." Can you recall this singular incident and those connected with it?'

"On the 22nd he replies :—

"'I well remember old Dr. Stockman's performances at Rome. Your recollections, as far as you express them, agree almost exactly with my own. I do not know the name of the person; but that, I suppose, is not material. He was found as you mention, lying insensible with his mouth applied to the faucet. No means were applied to restore him to consciousness. He was brought out into the ball-room, and a crowd immediately gathered around, watching the case.

"'After a few minutes his feet began to move slightly, with a gradually increasing motion to a very rapid one, evidently making an effort to dance. He was thus held up by the arms, with his feet flying like drumsticks, and gradually recovering the use of his limbs until he could dance alone.

"'He danced in this way until the effect of the gas had subsided, and then appeared entirely exhausted. No injurious or unpleasant effect was noticed, and after resting a while he appeared as usual.'

"In November, 1883, I addressed a similar letter to an early friend and schoolmate, Mr. William E. Wright, all his life a resident of Rome, to which he replied as follows :—

"'In answer to your inquiries, I would say that I remember the incidents as to the lecture of Dr. Stockman at the hotel ball-room, not from personal presence, but from my father, who was there, of an attack made upon him by Ephraim Smith when under the influence of the gas, who chased him from the ball-room into and through adjoining rooms until he came to himself again. I also remember the case of the person who became overcharged at the gasometer. I remember the lecture at the court-house from personal presence, and witnessed the agility of one man (M'Donnell), who, under the influence of the gas, immediately started on a run upon the top rails of the right hand tier of rising slips up through the people therein, causing great excitement and fear by the people, who seized and held him by force until he came out of the gas influence. Finding himself so held he was extremely mortified at his act and condition.'

"In August, 1887, wishing to confirm as far as possible the above recitals, I obtained from my cousin, Rev. Charles

P. Grosvenor (Yale, 1827), of Pomfret, Conn., his recollections of these events, which occurred when, a boy of sixteen, he was at school in Rome. They coincide with the preceding; and he adds, 'When thus held up and reviving, the young man would throw his feet as high as his head.'"

Fortunately for medicine, the discovery of modern anæsthetics fell to the lot of gifted scientists.

The first manifestations of the anæsthetic properties of nitrous oxide were noted by Davy, Beddoes, Priestley, son of the discoverer of the gas, and Watt.

Davy thus recorded the effects:—"Having previously closed my nostrils and exhausted my lungs, I breathed four quarts of nitrous oxide from and in to a silk bag. The first feelings were similar to those produced in the last experiment; but in less than half a minute, the respiration being continued, they diminished gradually and were succeeded by a sensation analogous to gentle pressure on all the muscles, attended by a highly pleasurable thrilling, particularly in the chest and extremities. The objects around me became dazzling, and my hearing more acute. Towards the last inspiration the thrilling increased, the sense of muscular power became greater, and at last an irresistible propensity to action was indulged in; I recollect but indistinctly what followed; I know that my motions were various and violent. These effects very soon ceased after respiration. In ten minutes I had recovered my natural state of mind. The thrilling in the extremities continued longer than the other sensations. This experiment was made in the morning; no languor or exhaustion was consequent; my feelings throughout the day were as usual, and I passed the night in undisturbed repose."

The importance of the discovery of a general anæsthetic agent was not recognised; neither Dr. Davy nor Dr. Paris mention it prominently in their biographies of Sir Humphry Davy, and when the knighthood was conferred on him in 1812 no reference is made to the part he played in the discovery of anæsthetics.

Priestley, in America, gave himself up to theological studies, and Watt attained so much distinction as the inventor of the steam-engine that few remember the part he played in

PLATE I

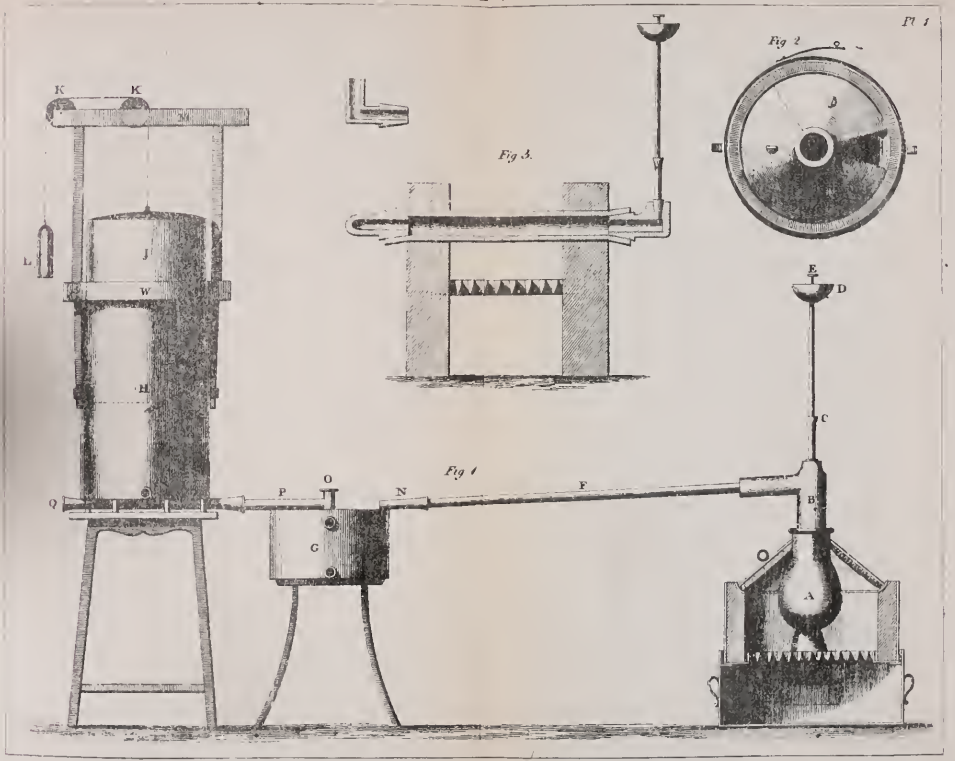

Fig. 1. Elevation of the Large Pneumatic Apparatus, with the Alembic.
Fig. 2.—Bird's Eye View of the Furnace, with its Covers.
Fig 3.—Section of the Fire-tube and Furnace, according to the first construction

THE HOTWELLS' HOSPITAL APPARATUS FOR THE PRODUCTION OF "FACTITIOUS AIRS."

PLATE II.

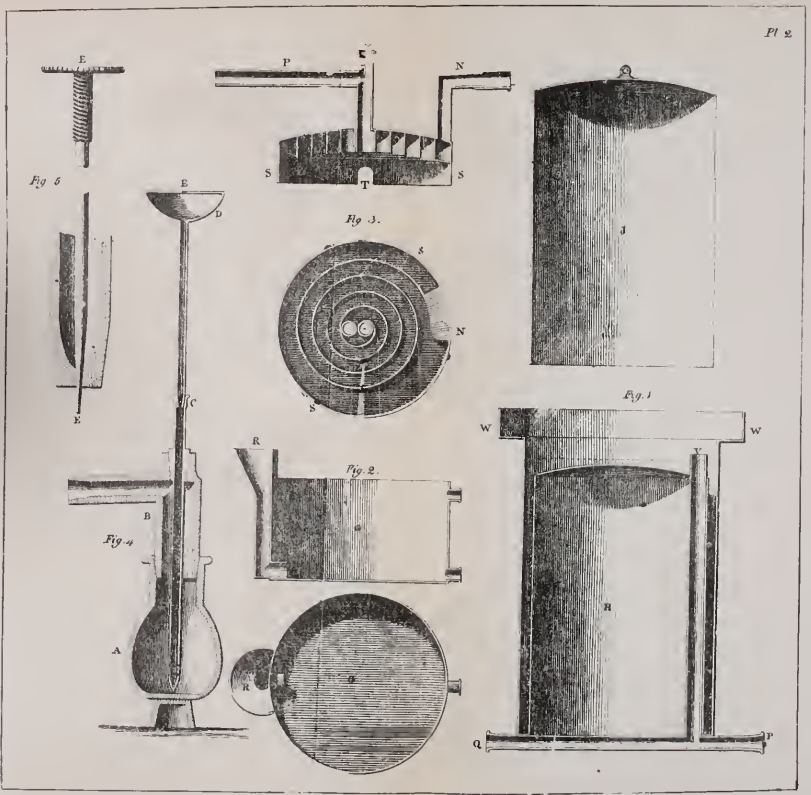

Fig. 1.—Section of the inner and outer Vessels of the Hydraulic Bellows
Fig. 2.—Section of the outer Vessel of the Circulating Refrigeratory.
Fig. 3. Section and Plan of the inner Vessel of the Circulating Refrigeratory.
Fig. 4.—Section of the Alembic and Water-pipe.
Fig. 5.—Section or the upper Part of the Water-pipe, and View of the Conical Wire

PLATE III.

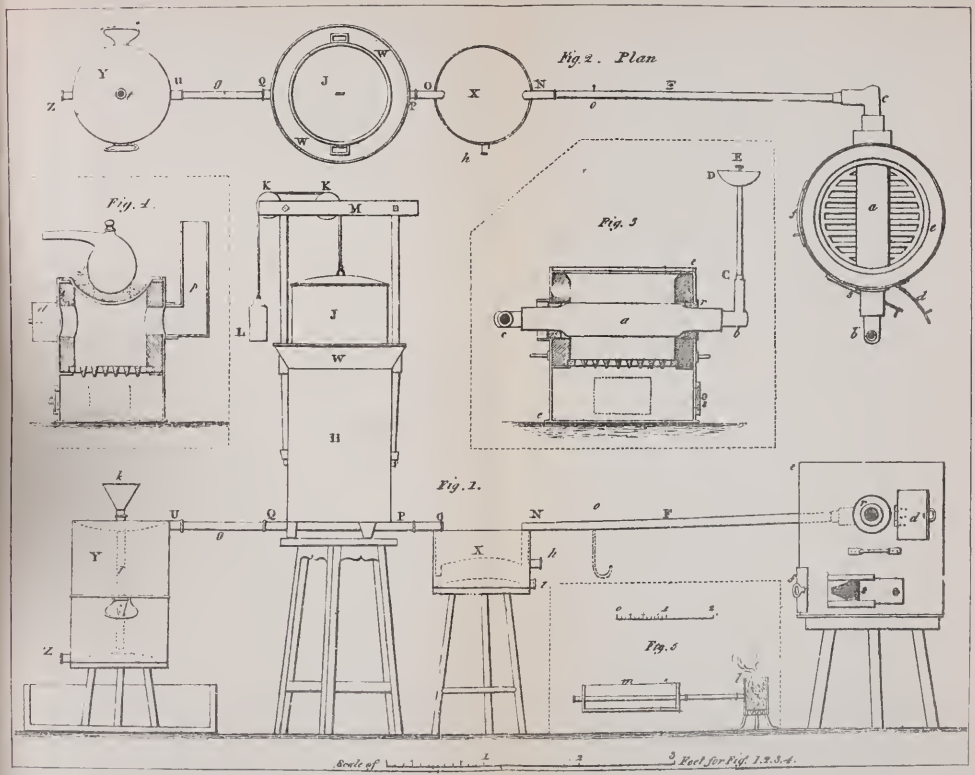

Fig. 1.—Elevation of the Large Pneumatic Apparatus, with the improved Furnace Fire-tube, Close Refrigeratory, and Air holder
Fig. 2.—Plan of ditto. Fig. 3, Section of the Furnace and Fire-tube.
Fig. 4.—Section of the Small Furnace, with Sand Bath, Retort, and Chimney adapted for Distilling.
Fig. 5.—Section of the Pipe Refrigeratory.

the birth of anæsthetics, and neither Cavendish, in England, nor Berthollet, in France, paid any attention to the great discovery; they were engaged in the study of chemistry for its own sake; withal, it is strange that Berthollet, as physician to the Duke of Orleans, did not, during his exhaustive studies of the gaseous elementary bodies, give some thought to the anæsthetic properties of nitrous oxide. Even Antoine Fourcroy, who with Vauquelin devoted so much study to the physical properties of the gas, and to the study of the chemistry of ether, gave no thought to the known anæsthetic properties of these substances. After 1803, however, Fourcroy's time was occupied with his administrative duties as Minister of Education under the First Consul. So completely had the remembrance of the anæsthesia of nitrous oxide passed from memory that forty years after its property of preventing pain during surgical operations had been demonstrated in the Hotwells Hospital, Velpeau, of Paris, described the attempts to find such an agent chimerical.

From the re-introduction of the gas as an anæsthetic, Gardiner Quincy Colton plays such an important part that a short biographical sketch of his career will not be amiss.

Gardiner Q. Colton was born in the village of Georgia, State of Vermont, on the 7th of February, 1814. He was the twelfth child of Walter Colton, one of the pioneer settlers of the State; he received a common school education, and at the age of sixteen learned the trade of chair-making, which he followed at Saint Albans until 1835, when he went to New York, worked at his trade, and wrote for the press. In 1842 he studied medicine with Dr. William Parker, and attended the medical classes of the College of Physicians and Surgeons. In 1844 he began the delivery of philosophical and chemical lectures, giving exhibitions of electrical phenomena, and of the effects of nitrous oxide or "laughing gas," and in his peregrinations, reached Hartford, Connecticut, where he delivered the celebrated lecture which Horace Wells turned to such account for humanity.

Leaving Wells to the study of the anæsthetic, Colton continued his tour, giving, however, most of his attention to electricity, and in 1847, when lecturing in Pittsburg, he demonstrated its value as a motor power by pro-

ducing an electro-motor car. Two years afterwards he joined the army of emigrants for California, at the instigation of his brother Walter, who was successively Professor of Moral Philosophy and Belles-Lettrès at Middleton, Connecticut, editor of a newspaper, chaplain in the U.S. Navy, Californian pioneer, Alcade of Montery, and is credited with having built the first school, established the first newspaper, and of having made the first public announcement of the discovery of gold, which he did in a letter to the *North American*.

Neither as a miner nor as a physician was Gardiner Quincy Colton a success in California, and he left the State in 1850 for the New England States, where he resumed his lecturing tours until the outbreak of the civil war in 1860, when he published a series of war-maps.

In 1863 he founded the "Colton Dental Association," having establishments in New York and several of the larger cities of the Union. The Dental Association was a success, and Colton turned his thoughts to the Old World, where the use of nitrous oxide gas had not "caught on."

In 1867 he arrived in Paris, where, through the influence of an American dentist, Evans, the gas was brought under the notice of French surgeons and dentists.

Although Gardiner Q. Colton visited France I can find no mention of his having visited England. Dr. Evans brought his nitrous oxide apparatus to England, with which the anæsthetic property of the gas was demonstrated at the Dental Hospital, London, on the 31st of March, 1868.

Horace Wells, to whom we are indebted for the re-introduction of the gas as an anæsthetic, was a native of Hartford, Windsor County, State of Vermont. He studied dentistry in Boston, and at the age of twenty-one (1836) commenced the practice of his profession in Hartford, Connecticut. His mind was early turned to the subject of preventing pain in the extraction of teeth. In August, 1840, Dr. L. P. Brockett, of Brooklyn, New York, then a medical student, went to Wells to have a molar tooth extracted; the operation was difficult, and so painful that Wells said there ought to be some method of mitigating such suffering, and he thought a man might be

made so drunk by the inhalation of nitrous oxide gas as to prevent the pain of dental and other operations.

On the 10th of December, 1844, Mr. Gardiner Q. Colton delivered a lecture on "laughing gas" in Hartford, Conn., and after he administered the gas to Wells and several other gentlemen, one of them, a Mr. Cooley, while under its influence, fell over some benches, and was evidently badly injured; when he returned to consciousness Wells rushed to him and inquired if he were hurt. He replied, "No." Wells then said, "You must have been hurt, for you struck your legs against the benches." The young man then, at Wells' suggestion, pulled up his trousers; the blood was running down his legs, and his knees were badly injured. When again questioned by Wells, he said, "I did not feel any pain at the time." Wells then turned to a friend, Mr. David Clarke, who was near by, and an eye-witness to all this, and remarked, "I believe a man by taking that gas could have a tooth extracted or a limb amputated without feeling the pain." So thoroughly was Wells convinced of this fact that he told his wife on their way home that he intended to have the gas the next day, and have a tooth extracted. On arriving home, he left his wife and went to see his friend Dr. Riggs to announce his great discovery, and his intention to take the gas for the extraction of a tooth. Riggs tried to dissuade him from it, but his mind was made up, and he said, "As the young man did not feel pain at the time he was hurt, why cannot the gas be used in the extraction of teeth?"

Early next morning, the 11th of December, Wells called on Colton, and engaged him to go to his office at 10 o'clock and give him the gas. He did so, and Dr. Riggs extracted a large molar tooth for Wells while under the influence of the gas. Wells did not seem to feel any pain. He remained unconscious for a few moments, and on coming to he exclaimed, "A new era for tooth-pulling! It did not hurt me more than the prick of a pin. It is the greatest discovery ever made."

For the moment Wells' enthusiasm was unbounded. He immediately began the administration of the gas, and daily extracted teeth under its influence, and other dentists in Hartford adopted the same practice with the same success.

Dr. Marcy, then of Hartford, on witnessing Wells' operation, told him that when a student at Amhert College, he, with other students, had for amusement often inhaled nitrous oxide gas, and also the vapour of sulphuric ether, and that the effects of the two were identical, and he suggested to Wells to try ether as a substitute for gas. On this hint Wells tried it. He inhaled it himself, and he says, "I found it very difficult to inhale the vapour of ether in consequence of the choking sensation. For this reason, and for the reason that Dr. Marcy and myself came to the conclusion that nitrous oxide gas was not so liable to do injury, resolved to adhere to this alone."

Wells continued the use of the gas, and the dentists Riggs, Terry, Braddock, and Comfort; and the doctors in Hartford were well convinced of its value as an anæsthetic.

But, as Marion Sims writes (*Virginia Medical Monthly*), Wells felt that his great discovery should be laid more broadly before the profession and the world, and early in 1845 went to Boston for this purpose. Through his former pupil and partner, Dr. W. T. G. Morton, dentist, he was introduced to Dr. John C. Warren, Dr. Charles T. Jackson, Dr. Hayward, and others. Dr. Warren received him kindly, and Wells remained in Boston several days with the expectation of giving gas to a man who was to submit to an amputation at the hands of Dr. Warren. For some cause the operation was postponed. Wells was then invited to address the class at the medical college on the subject. He did so at some length, and then administered the gas for the extraction of a tooth. Unfortunately the gas-bag was removed too soon, the patient was not sufficiently anæsthetised; he screamed out and said he felt the pain of extraction, and the experiment was, therefore, a failure. Wells was hooted at, and unfeelingly hissed out of the operating theatre, pronounced a charlatan, and his anæsthetic a humbug. He returned home, greatly mortified at his failure, was taken suddenly ill, and did not recover his health for many weeks.

His denunciation as a charlatan was due to the fact that the students thoughtlessly looked on him as one of the class of itinerant lecturers on electro-biology, suggestion, or mes-

merism. Side by side with the chemical lecturer who demonstrated the stimulating effects of "laughing gas," was the mesmerist who by suggestion and chicanery amused his audience. At the very time Wells was claiming anæsthetic properties for nitrous oxide gas, operations were being performed on hypnotised patients. By some fatality the gas never appeared to the public to be worthy of serious consideration. Gillray published his celebrated caricature, "New Discoveries in Pneumatic Medicine," on the 23rd of May, 1802, in which he represents Dr. Garnett, lecturer on chemistry, assisted by Mr. Humphry Davy, practically demonstrating his discourse by experiments on Sir J. C. Hippesley, through whose body the gas appears to pass as freely as it enters his mouth. The droll head of Count Rumford is discovered near a cabinet of electric apparatus; behind the Count appears the hawk-like beak of Isaac D'Israeli. Near Lord Stanhope (in top boots, and leaning on a stick) is a pamphlet—"Hints on the nature of air required for the New French Diving-Boat." Lord Stanhope's immediate neighbours are understood to be Earl Pomfert and Sir Henry Englefield. Among the persons interested are Miss Lock, Mr. Southby, Mr. Denys (with a maul-stick and palette, holding his little boy), Lady Charlotte Denys, Mr. Thodal, a German *attaché*, and several others. Mesmerism never suffered such fierce ridicule.

From 1830 to 1856 mesmerism, or as it was now called, hypnotism, had, principally owing to the writings of Mr. James Braid, of Manchester, shaken off charlatanism, and, clothed in scientific robes, appeared as the much-desired anæsthetic. Under its influence Esdaile performed three hundred capital operations of every description, and many of them of the most terrible nature, without inflicting pain on the patients. Cloquet and Broca also operated under the influence of hypnotism. Braid published his "Physiology of Fascination," and "Suggestion" became recognised as a useful therapeutic agent.

The great majority of the medical profession were opposed to mesmerism, no matter what name it bore; withal, a few prominent members decided to fairly test the

value of "Suggestion" as a remedy. Amongst these was Dr. Gibbs, of South Carolina, of whom Dr. Grandy (*Virginia Medical Monthly*) writes:—"He and others claimed to have witnessed operations on patients mesmerised, and declared that mesmerism was the *ne plus ultra* needed to kill pain in surgical operations."

VACCINATION IN INDIA.

THE *Indian Medico-chirurgical Review* summarises the state of Vaccination in the Central Provinces, India, in 1894-95. The figures may be taken as representative in this department of Indian hygiene. The population of the province is 12,131,300. The number of primary vaccinations was 416,085, an increase of 39,904. Re-vaccinations were 54,507. "Of the total of 470592, there were 401,186 successful primary vaccinations and 42,612 successful re-vaccinations, giving a per-centage of 96.42 of the former, and of 78.18 of the latter. The average number of operations performed by each vaccinator is stated to be 78.18. During the year compulsory vaccination was extended to nine municipal towns."

TUBERCULOSIS COMMUNICATED BY A SPARROW.

AT a recent meeting of the *Société de Biologie* (reported in the *Gazette Médicale de Paris*), M. Durante mentioned a case in which a woman had been pecked on the finger by a sparrow. Lupus developed at the wound, and glands at the bend of the elbow were secondarily affected. The tuberculous nature of the lesions was demonstrated by extirpation and inoculation. It was suggested that the bird had been infected from the corpse of a patient who had died of tuberculosis.

WORKING WOMEN.

WE earnestly recommend to the notice of all who love to help and teach and encourage the "working woman," Miss Bessie Bernard's *Scattered Leaves for Working Women*, a little pamphlet published by James Montgomery, Londonderry. It is a paper read by the author at a Working Girls' Club; and it seems to us eminently suited to its purpose, and to its audience. It is full of sympathy and practical advice, and completely free from the tone of condescension which is so apt to mar the best-meant efforts to improve our fellow-creatures.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. Volume VI. Diseases of the Respiratory Organs. London: Sampson Low, Marston & Company, Limited, St. Dunstan's House, Fetter-lane, Fleet-street, E.C. 1896. 8vo. Pp. 743.

THE contributors to the present volume of this stupendous literary work are Dr. Winslow Anderson, of San Francisco; Dr. Francke H. Bosworth, of New York; Dr. Albert H. Buck, of New York; Dr. George A. Gibson, of Edinburgh; Dr. Prosser James, of London; Dr. E. J. Moure, of Bordeaux; Sir Thomas Grainger Stewart, of Edinburgh; and Dr. Jonathan Wright, of Brooklyn.

The subject-matter embraces diseases of the nose and its accessory sinuses, of the naso-pharynx and pharynx, of the ear, tonsils, larynx, trachea and bronchial tubes, and of the lungs.

The article on diseases of the nose is by Dr. Prosser James. It is uneven, but very comprehensive. We would remind the author that the term "anosmia" does not mean "absence of smell," but absence or loss of the *sense* of smell, which is quite another thing. The author seems to draw a hard and fast line between nasal tuberculosis and lupus (pages 72 and 73). In fact, at page 6 he makes no attempt to simplify the use of the latter term, for he writes—"The nose is a favourite point of attack of the *several forms of disease to which the name lupus has been given.*" Surely this is unworthy of "Twentieth Century Practice."

The condition of the nasal passages in measles is disposed of in three lines thus:—"Measles is usually ushered in by a watery discharge, which is sometimes followed by epistaxis or

by severe inflammation. Occasionally atrophic rhinitis seems to be started by an attack of measles." This is sketchy, unscientific, and unsatisfactory. Some allusion might well have been made to the important researches of Hebra and Mayr on the characters of the nasal mucus in this exanthem.

Dr. Jonathan Wright, of Brooklyn, contributes a short but able article on diseases of the accessory sinuses of the nose. The illustrations of these sinuses on pages 80 and 81 are very roughly executed though otherwise useful.

The third article, on diseases of the naso-pharynx and pharynx, are by Dr. E. J. Moure, of Bordeaux. It possesses all the characters of a French monograph, and runs to 103 pages, whereas "Diseases of the Ear" are disposed of by Dr. Albert H. Buck in 46 pages. Dr. Moure has another long article on diseases of the tonsils. He is a recognised authority on this and kindred topics, and what he has written must command attention.

Dr. Bosworth, of New York, writes at great length on diseases of the larynx. In his communication he gives a full account of tuberculosis as it affects the larynx, and afterwards proceeds to describe lupus of the larynx, which he calls "this curious affection." His definition of it seems to us to be singularly unhappy. "Lupus," he writes (page 418), "is a term which we use to designate a specific morbid condition which in a large majority of instances arises primarily in the skin, but may also attack, primarily or secondarily, the mucous membrane of the nasal passages, the fauces, or the larynx." He admits the close relationship between lupus and "phthisis," which "seems clearly established on pathological grounds, and this is reinforced by clinical investigation." "When we come to consider lupus of the air tract, however, this teaching is not fully borne out, since I find but a single case—viz., that of Thoma, in which lupus of the throat occurred in an individual showing evidence of tuberculous deposit in other regions." We suppose that, as Dr. Bosworth is discussing the ætiology of "lupus" in the section of his work from which the foregoing quotations are taken, we are to understand him as maintaining merely that "we are scarcely justified in regarding tuberculous disease of the lungs or of other organs as standing in any but the most remote causative

relation" to "lupus of the air tract." In this view we agree with him, and also when he contrasts tuberculosis with lupus on page 418:—"In one case, however, the morbid process is an active one, while in lupus the morbid process is essentially a chronic or latent one, so latent as practically to constitute a local lesion rather than a systemic invasion."

Still at this time of day, on the threshold of the Twentieth Century, and in "Twentieth Century Practice," it is somewhat retrograde to differentiate sharply between lupus and tuberculosis.

The first paragraph of the section on "Pathology" by our author reads thus (page 420):—

"The assertion made by Neisser and Friedländer in 1881, that lupus constituted a true tuberculous process, was in the following year verified by Koch in the announcement that he had discovered the presence of the tubercle bacillus in lupus nodules—a view which was still further confirmed and practically substantiated by the experiments of Schuller, Koch, and others, who produced tuberculous disease in the lower animals by the inoculation of lupus tissue, while Koch, going still further, produced pure cultures of tubercle bacilli from tissues invaded by lupus."

This quotation should clear the ground.

Dr. Bosworth deals very exhaustively with the subject of laryngeal paralyses under the heading "Neuroses of the Larynx." He has also some highly instructive observations on spasm of the glottis as it occurs in children and in adults. The same remark applies to his account of laryngeal incoordination, which he classifies as (1) Chorea of the larynx; (2) Dysphonia spastica; and (3) Laryngeal vertigo. The chief symptom in the first-named is a persistent, noisy, dry cough, resembling the bark of a dog, recurring every 2 or 3 minutes, except during sleep. Chorea of the larynx occurs especially in girls about the age of puberty. Dr. Bosworth places reliance on Fowler's solution of arsenic as a remedy for the affection, in which also bromide of potassium in full doses and the faradic current are stated to give good results.

Fracture of the larynx and prolapse of the laryngeal ventricles are among the many interesting topics discussed by Dr. Bosworth, who also treats of laryngeal tumours. Carcinoma of the larynx seems to be extremely rare. Out

of the 11,131 cases of cancer recorded in the hospitals of Vienna, only 63 affected the larynx. Lébert found 3 instances of laryngeal cancer in 9,118 cases, Winniwarter 1 out of 548, and Baker 3 in 500. The latter figures leave us somewhat in doubt whether the word "cases" refers to cancer elsewhere in the body, or to cases of various laryngeal affections.

The monograph on the diseases of the trachea and bronchial tubes is the joint work of two distinguished Scotch physicians, Sir Thomas Grainger Stewart and Dr. George Alexander Gibson, of Edinburgh. The scope of the work will be best understood from the authors' introductory statement. They say:—

"In the present article the description of the diseases of the trachea and bronchial tubes is preceded by introductory discussions as to the anatomical, physiological, pathological, semeiological, and therapeutical aspects of these diseases in general. The diseases themselves are classified in accordance with the usually accepted teaching. The diseases of the trachea and bronchi are dealt with first, and then those of the bronchial tubes. Among diseases of the trachea and bronchi, the inflammations are first considered—catarrhal, fibrinous, diphtheritic, and mycotic; ulceration and stenosis follow. Of the diseases of the bronchial tubes, as in the case of the trachea and bronchi, the inflammatory affections receive attention in the first place: catarrhal inflammation in the acute form as it affects the smaller or the larger tubes, and in the chronic form according as it is dry, moist or putrid; fibrinous inflammation in its acute and chronic forms then follows. Stenosis, or narrowing of the bronchial tubes, and bronchiectasis or dilatation are then taken up, and asthma finally receives attention."

The account of bronchiectasis is the most comprehensive with which we have ever met. This is not to be wondered at, seeing that Sir Grainger Stewart is not now for the first time identified with the literature of the subject.

In discussing the treatment of the results of the disease, mention is made with marked approval of intratracheal injections of suitable antiseptics. The solution employed with remarkable success by Sir Grainger Stewart in several cases consisted of menthol 10 parts, guaiacol 2 parts, and

olive oil 88 parts. Of this a drachm was injected through the glottis, by means of a special syringe, twice daily. Under this method of treatment the fœtor speedily diminished and finally disappeared. The authors assure us that experience shows intratracheal injection to be absolutely free from danger, and easily applied by one who has had a little practice in the matter.

One of the characteristics of this article on diseases of the trachea and bronchial tubes is the very full historical account of the researches on the different diseases which is given. This is particularly true in the case of both bronchiectasis and asthma. The latter affection is described as presenting three types—(1) Hay asthma and allied processes; (2) pure spasmodic asthma; (3) bronchial asthma. Should we not add "cardiac asthma" and "renal asthma?" These conditions the authors distinguish from asthma by the names "cardiac dyspnœa" and "renal dyspnœa."

The last article in this volume is on diseases of the lungs, excluding "croupous pneumonia" and tuberculosis. The author is Dr. Winslow Anderson, of San Francisco. A glance through his work shows that he has rather slavishly followed Niemeyer in his classification of morbid conditions of the lungs. Lobular pneumonia, he states, is now regarded by most writers as an infectious inflammation, the pathogenic micro-organism of which is supposed to be either the bacillus of lobar pneumonia or the streptococcus of suppuration. Personally Dr. Anderson rather inclines "to the view that lobular pneumonia is an extension of the inflammatory process present in the capillary mucous membrane, which involves the air-cells and tissues immediately surrounding them."

In the catalogue of causes of this form of inflammation of the lungs which he gives under the head of ætiology, we find no mention of "inhalation-pneumonia," which the disease really is in many instances. This is the more remarkable as we meet, two pages further on, under the head of pathology, with this very suggestive sentence—"The capillary secretion may be sucked into the air-cells themselves and thus set up the lobular pneumonia."

There can be little doubt, also, that pneumonia in the

infirm and aged often springs from fragments of food or other foreign bodies being sucked into the air vesicles, so that inhalation-pneumonia certainly deserves recognition in any account of the ætiology of lobular pneumonia.

It will be seen from the foregoing critical analysis of the contents of Volume VI., that the character of "Twentieth Century Practice" is well sustained in its pages. We congratulate the courteous and self-effacing editor, Dr. Stedman, on the successful completion of another instalment of his giant task.

On Gall-Stones, or Cholelithiasis. By EDWARD MANSFIELD BROCKBANK, M.D. Vict.; M.R.C.P.; late Resident Medical Officer to the Manchester Royal Infirmary and the Birmingham General Hospital. London: J. & A. Churchill. 1896. Pp. 301.

WE have great pleasure in congratulating Dr. Brockbank on the admirable work he has produced. Its origin he traces to a number of experiments he made on the solvent action of certain drugs on gall-stones. In the course of these he found that there existed in English no *résumé* of the literature of the subject: hence he wrote this volume. He modestly states that it mainly consists of the views of others. As we read it, however, we find that the author's contributions to our knowledge of the subject have been numerous and important.

In the first chapter the varieties of gall-stones are described. In Chapter II. the physiology and chemistry of the bile, and of cholesterin in particular, are discussed. Three possible sources of cholesterin are mentioned—(1) it may exist in the blood and be excreted by the liver; (2) it may be formed by the liver; (3) it may be secreted by the epithelium which lines the bile-ducts and gall-bladder. On these the author, after relating several of his own observations, writes: "I think it is not unreasonable to conclude that cholesterin is formed by the mucous membrane of the biliary passages. The cholesterin may be formed as a result of degeneration of the cell elements of the mucous membrane, but it is also possible that some of the glands

which exist in the wall of the biliary passages may secrete it." He also considers it probable that some of it may be excreted by the liver from the blood.

In the next chapter the relation of gall-stones to age, sex, locality, and other diseases are very fully discussed. Then that very obscure subject, the ætiology of cholelithiasis, is brought before us. An excessive formation of cholesterin takes place, Dr. Brockbank says, in old age. It is especially the bile-salts which normally keep the cholesterin in solution. These bile-salts are formed in less amount when the dietary consists of non-nitrogenous materials. Certain pathological states of the liver also lessen their amount. Biliary stagnation, with the consequent infection of the bile with micro-organisms, may also have some share in the production of cholelithiasis. But when all is said, we feel that this is not much more than a translation into modern language of the views of Dr Thomas Coe, who lived 140 years ago. He writes (as quoted by Dr. Brockbank): "When by any means the bile is retarded so as to stagnate, it is readily formed into biliary concretions. There are many causes which contribute to the inspissation and stagnation of the bile—declining age, sedentary or inactive life, a slower circulation of the blood, and the use of spirituous liquors. Gall-stones are oftener found in women than in men (five to one). Compressing the viscera is another cause. Angry passions and long-continued grief have a wonderful effect on the bile. But perhaps we should add to all these causes a peculiar disposition of the body, owing to circumstances which are not to be explained, for we do not see gall-stones bred in all who are old or inactive, and they are sometimes found in those who are not old, nor want exercise." Our present knowledge of cholelithiasis very slightly exceeds that of Dr. Coe.

The symptoms produced by gall-stones and all the complications and accidents that may occur occupy 150 pages. Dr. Brockbank has given an admirable account of these; it is by far the best description of the disease that we are acquainted with. We can warmly recommend it.

With regard to Treatment, there is not much that is

novel. The author mentions the views of most authorities on the subject. In accordance with his views as to the use of nitrogenous food, he recommends that the diet should largely consist of the lighter forms of nitrogenous foods. In the last two chapters the surgical methods are very well described. We think, however, that this chapter might have been even more useful to surgeons had a larger bibliography been given.

We have been much pleased with Dr. Brockbank's work, and can warmly recommend it.

Epidemic of Beri-beri (*Occurring among Japanese Immigrants in* 1894–95—*Report on*). Legislative Council, Fiji. 1896. Pp. 40.

This is an elaborate Report by Mr. B. Glanvill Corney, Chief Medical Officer, on the first appearance of epidemic beri-beri in Fiji. Reports on "subdivisions of the epidemic," occurring at Nausori and Wailevi, supplied by the District Medical Officers, Mr. C. T. W. Hirsch and Dr. H. N. Joynt, complete the medical history of a rare disease, which threatens to become familiar to us here. Mr. Corney alludes to the Richmond Lunatic Asylum outbreak of 1894, which he attributes to overcrowding, remarking that it had not been traced to any specific infection from without. Further on, however, he tells us that "the best authorities agree in believing that residence of, at the very least, some weeks' duration in an infected place is an essential factor in producing beri-beri in a person who has not previously suffered from it." Dr. Conolly Norman should be able to confirm or confute this belief of "the best authorities." We shall quote Mr. Corney's definition—or description—of the disease, which is fairly satisfactory:—

"Beri-beri may be described as a specific breakdown of the motor and sensory nerves (principally), usually manifesting its effects first about their peripheral portions but extending later to the more central tracts, and involving muscles and organs of vital importance which in health are regulated by the sympathetic system. In the latter way it tends to cause death, by paralysing the heart and the muscles of breathing, or by precluding the continuance of

the digestive and assimilative functions; or by choking, so to call it, the lungs and other viscera by means of the œdema to which, in one class of cases, it gives rise. This type is, for convenience of description, called 'wet beri-beri,' and is characterised by dropsical distension (œdema); the other, the atrophic or 'dry' form, leads to rapid or extreme wasting of the body. In both the patient becomes paralysed and helpless; and there is a tendency to terminate suddenly in death in the manner described."

As to the ætiology of beri-beri, we do not, ourselves, believe in overcrowding as a cause. There is overcrowding in abundance and little beri-beri. The cause is to be looked for in the food; and the reporter himself supplies instructive illustration. Takaki Kanechiro, F.R.C.S.L., Director-General of the Medical Department of the Japanese Navy, improved the dietary by the increase of its nitrogenous elements, and within three years beri-beri disappeared from the service, where it had been rife. In 1883, in a force of 5,346, 23·12 per cent. were afflicted with kak'ke (the Japanese equivalent of beri-beri), 49 died—36·9 per cent. of cases. In 1884 the rations were reformed, both carbonaceous and nitrogenous elements being increased, the latter especially. The ratio was made 20·1. The ratio of cases fell to 12·74 per cent.; deaths to 8. He then brought up the proportion of nitrogenous food to one-sixteenth. In 1885, the force was 6,918; the percentage of cases, 0·59; deaths, none. In 1886, in a force of 8,475, there were 0·04 per cent. of admissions for kak'ke, and no death. In 1887 there were no cases. The new ration was less than the old in total quantity.[a] In spite of these most remarkable facts, Mr. Corney does not believe deficiency of nitrogen in the food to be the "sole or active" cause of beri-beri. It is merely a predisponent. There is, he says, a specific poison—there are a bacterium, a micrococcus, mycelial growths in the blood. We are not informed who has seen these things, but we are told that Manson "has always failed to find a distinctive micro-organism in beri-beri."

[a] We may refer here to an interesting paper published in the Madras Monthly Journal of Medical Science, Vol. V., by Assistant-Surgeon D. Kearney. He gives plausible reasons for believing that beri-beri is akin to ergotism, a result of feeding on diseased grain. This suggested ætiology is worthy of examination.

So far as Fiji experience goes, no blame can be laid on the shoulders (so to speak) of the *ankylostoma duodenale*; nor is there any necessary connection between beri-beri and anæmia.

The reports of Mr. Hirsch and Dr. Joynt upon the little epidemics which came under their observation are carefully prepared. The former points out that the term "beri-beri" has been loosely applied to cases of ankylostomiasis, and of peripheral neuritis of microbic origin and epidemic prevalence. Dr. Joynt's review of ætiological hypotheses, which concludes his report, is valuable.

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning: A Manual for the Use of General Practitioners. By Paul Swain, F.R.C.S.; Surgeon to the South Devon and East Cornwall Hospital. Fifth Edition. Crown 8vo. Illustrated. London: J. & A. Churchill. 1896.

We cannot speak highly of this book. In the first place, we fail to recognise the necessity for it. The emergencies of surgery receive ample attention in all our good text-books. Secondly, we are of opinion that it is absurd to suppose that a book of 240 pages could possibly deal adequately with the subjects mentioned on the title-page. Such a book cannot but be uninteresting, and the present volume is, to our mind, particularly so. Moreover, it is not free from mistakes, and here and there is wanting in precision. On page 8 we find Mr. Treves' account of the method for finding the position to trephine in cases of middle meningeal hæmorrhage. "A line is drawn round the skull at a level with the upper margin of the orbit." . . . . Here this sentence ends, but in the original we have the important addition, "and is throughout parallel to Reid's Base Line."

On page 107 we are told that the cæcum has no longitudinal bands! In describing the treatment of cut-throat, in cases where the carotid must be tied, the author advises ligature below the omo-hyoid; this is unusual. The limits for the incision are not very precise—"from a point opposite the thyroid cartilage to the sternum." In the account of

the operation we have a sentence containing twofold difficulty: "Divide the dense fascia attaching this muscle" (the omo-hyoid) "to the sheath on the director." The omission of commas is clearly accidental, but we are not familiar with any dense fascia attaching the omo-hyoid to the carotid sheath.

It is difficult to understand how pressure on the facial arteries could arrest epistaxis.

Of course, the book contains much sound surgery, and the fact that it has reached its 5th edition would seem to show that it has proved useful to those for whom it is written.

Dairy Milk: its Dangers and the Remedies. By CHARLES HENRY LEET, M.D., F.R.C.S.I.; late Surgeon-Major, A.M.S. Liverpool: C. Tinling & Co. 1896.

DR. LEET quotes the opinion of 20 eminent British physicians in favour of the use of sterilised milk for infant feeding. He describes various forms of sterilisers, especially those devised by Professors Foxplet and Hawksley. He quotes Dr. Sims Woodhead's directions for the domestic sterilisation of milk:—

"(1) The quantity of milk should never be more than the quantity of cold water by which it is surrounded; it is an advantage, in fact, to have a somewhat larger bulk of water than of milk, to allow for evaporation. (2) The milk should not be covered in, and should be stirred from time to time, but the water may with advantage be covered, in order to prevent evaporation; this, of course, is arranged for in special milk sterilising pans. (3) The water should be boiled over a good brisk flame, in order that the best results may be obtained, and the heating process should be continued until the temperature throughout the milk has risen to from 88° C. (190° F.) to 92° C. (198° F.); in most cases this takes place at the end of about twenty-five minutes, but in order to be perfectly safe it may be recommended that every quart of milk treated in this fashion should be heated for half an hour—that is, for about twenty minutes after the water in the outer pan has begun to boil."

Dr. Leet has himself done something of a practical nature in reference to sterilised milk. He says:—

"A simple, practical apparatus for immediate and thorough cooling-down of the sterilised milk on the completion of the process of sterilisation in the Cathcart patent, has been felt in our Medical Home absolutely necessary to safeguard this valuable sterile milk on its perilous voyage from the boiling Cathcart stop-cock to the infant's mouth (every four hours for twenty-four hours milk supply).

"Our apparatus consists of a covered tin vessel. The inlet aperture on one side conveys, by an indiarubber tube, a stream of running water from the house water tap into the vessel, the water passing out by the outlet aperture in the opposite wall of the vessel. A sufficient number of feeding bottles filled with the hot sterilised milk, and fitted with air-tight black rubber teats, are arranged in sockets inside the vessel, and the running cold water soon reduces the temperature to that of the water—a fall of about fifty degrees. In summer for infants, and at any time for adults with gastric troubles, the cooler can become a refrigerator for milk or milk foods. The cooler renders sterilised milk more palatable—more aroma, no burnt taste. Again, warm milk, from its remarkable capacity for heat, parting with it much more slowly than does hot water, suffers from changes in itself which would be injurious to infant life, but the cooler arrests all such evils for twenty-four hours at least.

"Lastly, the cooler minimises the risk of microbic contamination from without, *en route* to the infant's mouth, whereas the Cathcart vessel is at the mercy of every inquisitive nurse-girl so disturbing the cotton-wool whilst twirling the stirring metal rod, that microbes may freely gain access to the happy hunting grounds below; can she be trusted to use every four hours a sterile feeding bottle and teat in a badly ventilated kitchen with an average temperature of 63°? she can tamper with the milk, add impure water, drink it, &c."

Dr. Leet's little brochure is well worthy of attention.

Transactions of the Clinical Society of London. Volume XXIX. London: Longmans, Green & Co. 1896. Pp. 267.

This volume of the Clinical Society's Transactions is well up to the level of its predecessors, and represents work that any Society might be proud of. We have looked through it carefully; and where all is so good we find it somewhat

difficult to pick out any paper for special commendation. Still we must call particular attention to a few.

One of the most interesting papers is that of Drs. Pitts and Ballance on "Three Cases of Splenectomy for Rupture." They point out as one of the most important signs pointing to splenic hæmorrhage, the fact that while there is dulness in both flanks, that on the right disappears with change of posture, being caused by fluid blood, while that on the left does not so disappear, being caused—at least in part—by blood clotted about the seat of hæmorrhage. All these cases recovered.

Drs. Coleman and Ballance give a most interesting account of a case of sensory aphasia, alexia, and agraphia due to the presence of a tumour in the region of the angular gyrus. To relieve pressure, an operation was done, and a cyst being found in the tumour its contents were drained, with temporary improvement. In the end, however, the patient died. A number of coloured plates illustrate the operation and the autopsy, and also the recorded cases of sensory aphasia due to tumour.

Mr. Mayo Robson has a valuable paper on enterectomy. Drs. Hale White and Golding-Bird record a case of membranous colitis treated by a right colotomy: the intestinal trouble was greatly lessened even after the colotomy wound had closed.

There are many other papers which will well repay perusal. We have only picked out a few which especially interested us.

Post-mortem Examinations in Medico-legal and Ordinary Cases, with Special Chapters on the Legal Aspect of Post-mortems and on Certificates of Death. By JAS. JACKSON CLARKE, M.B., Lond., F.R.C.S.; Assistant Surgeon to the North-west London Hospital, &c. London: Longmans, Green & Co. 1896. Pp. 78.

MR. JACKSON CLARKE is modest. He apologises in his preface for the publication of this work, and hopes its production may be excused because it contains an account of the gloves he uses in making autopsies. These gloves are made of stockinette

covered with indiarubber; they are called "Photographer's Gloves," and may be obtained for the sum of 5s. 6d. a pair.

The second ground on which he excuses his little book is because he has incorporated in it a number of matters which are generally looked for in works on Forensic Medicine. We do not see any objection to referring for such information to works on Forensic Medicine.

On the whole we think that Mr. Jackson Clarke might with advantage have been still more modest and have satisfied himself with an article in one of the medical journals.

Journal of the Scottish Meteorological Society. Third Series. Nos. XI. and XII. Edinburgh and London: William Blackwood and Sons. 1896. Pp. 208.

This fasciculus of Vol. X. of the *Journal of the Scottish Meteorological Society* contains several valuable contributions. Dr. Alexander Buchan, the veteran Secretary of the Society, describes, in a very interesting paper, the high temperature of September, 1895, as observed in Scotland, and particularly at the Ben Nevis Observatories. Of these, it may be remembered, one is situated at Fort William, at the base of the mountain, only 42 feet above mean sea-level. The other is perched on the very summit of the mountain at an altitude of 4,407 feet.

The results obtained from a scientific comparison of the observations taken at both stations, not only in September, 1895, but now through a considerable series of years, open up new and fruitful fields for inquiries into the practical question of weather forecasting, particularly in giving early indication of the increasing humidity of the higher strata of the atmosphere in advance of an approaching cyclone, of which low-level observations of themselves give no indication.

Mr. R. C. Mossman, F.R.S. Edin., of Edinburgh, contributes as many as four papers. Their titles are—"On the Diurnal Range of Temperature Variability at the Summit and Base of Ben Nevis, Lady Franklin Bay, and Hong Kong," "On Sunshine, with Different Winds, at Edinburgh," "On the Number of Auroras Observed over the N.E. of Scotland from 1773 to 1894, during each Day of the Year,"

"The Frost of 1895 in Scotland," in which the disastrous effect on the public health of the prolonged cold is clearly brought out.

Mr. Andrew J. Herbertson makes an important communication on "Hygrometric Researches at High and Low Levels," in continuation of a former report on the results of a winter's hygrometrical work at Ben Nevis Observatory, which was published in the last number of the *Journal of the Scottish Meteorological Society* (Vol. X., pp. 41–49).

In addition to these papers, there are the usual meteorological Tables and reports on the weather in Scotland.

A Manual of Infectious Diseases. By E. W. GOODALL, M.D. Lond., Medical Superintendent of the Eastern Hospital of the Metropolitan Asylums' Board, formerly Medical Registrar to Guy's Hospital; and J. W. WASHBOURN, M.D. Lond., Fellow of the Royal College of Physicians, Physician to the London Fever Hospital, and Lecturer in the Medical School. London: H. K. Lewis. 1896.

IN this well-written and well-illustrated octavo volume of 368 pages (the last eight being occupied by the Index), the authors have given a fairly judicious, but necessarily short—and, we are sorry to be obliged to add, often too superficial—account of the ætiology, symptoms, and treatment of the principal infectious fevers. The volume is professedly designed for students, for whom attendance in the wards of a fever hospital is now compulsory. The authors also "hope that it will prove helpful to those who have little or no time to spare for special courses of instruction such are now held in most of the large fever hospitals in London and the provinces." One of the important features of the Appendix is a *résumé* of a Report of the Medical Officers of the Metropolitan Asylums' Board Hospitals upon the antitoxin treatment of diphtheria, which was published while this volume was passing through the press.

There are diagrams of the principal rashes, and although the majority are of the type usually described as semi-diagrammatic, the most sketchy are made to indicate the relative

distribution of the eruptions, which is something. There is a very good selection of temperature charts interspersed in their proper places, and there are five important plates of the more important types of the almighty microbe. Plate II. is a specially good one, and contains two representations of the influenza bacillus—in *sputum* and *cultivation*—each × 1,000.

We have no hesitation in recommending the volume to students of fever. It is short by election, and superficial and sketchy by consequent necessity, but, with these reservations, we think that the authors have produced a beneficial text-book on a most important subject.

Guide to the Examination in Practical Chemistry for the Conjoint Board of England. By Percy A. E. Richards, F.I.C., F.C.S.; Demonstrator of Chemistry and Public Health at the Charing Cross Hospital Medical School, &c. London: Baillière, Tindall & Cox. 1896. Pp. 57.

This little book contains a number of tables, such as are used in Practical Chemistry Classes. The characteristic reactions of each metal and of each acid radical are first given; then the metals and acids are divided into groups for purposes of identification. A list is given of a few salts whose detection presents unusual difficulties, and their peculiarities are pointed out; next the mode of preparing a number of salts is explained; and lastly a large number of chemical equations are introduced illustrating the reactions which occur in the various tests employed.

We note that the course in organic bodies, other than organic acids, is very limited, only urea, sucrose, and glucose being introduced.

This is a well written and excellent little book, but not better written or more excellent than those which are in common use in our Dublin Medical Schools.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Assistant Physician to the Adelaide Hospital; and Lecturer on Medical Jurisprudence in Trinity College, Dublin.

(*Continued from page 433.*)

VIII. INFANTILE SCURVY FROM THE USE OF STERILISED MILK.
IX. ON ASPIRATION OF THE PERICARDIUM AND HEART.
X. SYPHILITIC LESIONS OF THE HEART.
XI. ON THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF HEART DISEASE AND GOUT.
XII. THE CAUSE AND TREATMENT OF SOME KINDS OF COUGH.
XIII. HOW TO CURE A COUGH.
XIV. THE USE OF SALICYLATE OF METHYL.
XV. NAPHTHALIN AS A VERMIFUGE.
XVI. BISMUTH NAPHTHOLATE.
XVII. CAFFEIN.
XVIII. CHLORALOSE.
XIX. CHLORAL.
XX. CALOMEL.
XXI. THE CLINICAL VALUE OF THE PHENYL HYDRAZIN TEST.

VIII. INFANTILE SCURVY FROM STERILISED MILK.

Among artificially fed infants, particularly those belonging to the wealthier classes, where the surroundings are most favourable and the supply of cow's milk as nearly perfect as possible, one encounters cases of malnutrition verging even upon simple atrophy, which are due solely to sterilisation of

the food, a fact readily established by the rapid improvement following the use of identically the same milk mixtures either Pasteurised or untreated by heat. In the opinion of Dr. Louis Starr, of New York, the alterations produced in cow's milk by sterilisation may also lead to the development of the complex of symptoms known as infantile scurvy, but as this point has been disputed it is a matter of interest and importance to place upon record the following cases that have come under observation during the past two years:—

The first patient had been fed from birth upon a mixture of sterilised milk and water in the proportion, at first, of one-third, then one-half, and next two-thirds, with two teaspoonfuls and a half of cream and one teaspoonful of sugar to each six-ounce bottle. He apparently thrived until the age of eight months, when the symptoms of scurvy appeared—namely, spongy and bleeding gums, pain in and immobility of the legs, and some swelling above the knee and ankle joints.

The treatment adopted was discontinuance of sterilisation without alteration in the composition of the milk food, the administration of a teaspoonful of orange juice and the same quantity of raw beef juice three times daily, and small doses of citrate of iron. Result—complete recovery in a little over three weeks.

The second patient had been bottle-fed from birth. Up to the fourth month a condensed milk mixture was employed; then he was placed upon a sterilised mixture of cow's milk, cream, lime-water, and sugar of milk. The initial symptoms were fretfulness, disturbed sleep, slight feverishness, and violent paroxysms of crying when picked up in the arms, or when the legs were moved, or pressure made about the hips or knee-joints. These joints were not perceptibly swollen, nor was there redness or other discoloration of the surface. The gums, however, of both the upper and lower jaw in the neighbourhood of the two lower and four upper incisors, which were well advanced, were swollen and of a "deep raw-meat colour." This discoloration decreased after a short time to a purplish line limited to the margin of the gums.

No change was made in the composition of the food,

but Pasteurisation was substituted for sterilisation in its preparation, and in addition two teaspoonfuls of raw beef juice and from one to two teaspoonfuls of orange juice were ordered every four hours.

The patient began to improve immediately, eating better, gaining in weight, and sleeping well. All scorbutic symptoms disappeared in less than three weeks.

The third patient was the child of well-to-do parents living in the country, who first exhibited symptoms of scurvy at the age of seven months. She was artificially fed from birth. The digestive power being small, a sterilised mixture of cream water and milk sugar was employed for five months. Later Mellin's food was added, but increase in the strength of food caused indigestion.

At seven months a slight decrease in the activity of the leg movements was observed. Then pain, evinced by crying, was noticed on moving the limbs; this gradually increased until the slightest movement or touch caused suffering. The parts in the neighbourhood of both knees and the left ankle were the most tender. The gums surrounding the two lower incisors, which were thoroughly advanced, were swollen and purple in colour. Both legs were passive; attempts at movement caused severe pain, and pressure above the knee and ankle joints showed extreme tenderness. There was no swelling, and neither heat nor discoloration of the surface. Examination of the heart, lungs, and abdomen gave negative results, and the urine was normal. There was no indication of rickets.

Immediate discontinuance of sterilisation was recommended, and the child was ordered a partially predigested food, composed of cream, one half fluid ounce; milk and water, each three fluid ounces; peptogenic milk-powder, one drachm. In addition to this, one teaspoonful of raw beef juice and a bitter tonic were given three times daily. The scorbutic symptoms disappeared rapidly.

Not to go into detail, Dr. Starr has seen in consultation during the past eighteen months five cases of scurvy in children aged eighteen, twenty, twenty-two, sixteen, and fourteen months, respectively, which illustrate the ætiological point in question. In each of these cases the food was pro-

perly proportioned, and had for its basis sound cow's milk, but sterilisation had been uniformly employed in its preparation. All recovered rapidly upon the same food unsterilised, with the addition of a small quantity of raw beef juice and orange juice to the diet.—*Amer. Jour. Med. Sci.*, 1895, No. 6, and *Archives of Pediatrics*, Jan., 1896.

IX. PUNCTURE AND INCISION OF THE PERICARDIUM.

MM. Delorme and Mignon, after having made minute anatomical and pathological researches, propose a less dangerous method for incision and puncture of the pericardium. They state that with the usual methods one is almost certain to wound the left pleura. Researches in sixteen bodies show that as far as the level of the fourth intercostal space the edge of the left pleura is hidden behind the sternum and corresponds to its border; in the fifth space in two-thirds of the cases the pleura is wounded, even if one keeps close to the sternum. In one case an attempt to open a purulent pericarditis inoculated the pleura, and in another case incision of the pericardium produced pneumothorax. In great distension of the pericardium the parietal pleura is more fixed than the mediastinal pleura, and is scarcely at all displaced outwards by the distension of the pericardical sac. The operations which they advise avoid all complications, either in connection with the heart, the pleura, or the internal mammary artery. For puncture of the pericardial sac the method is as follows:—A small, cutaneous incision is made in the fifth left intercostal space (if this is too narrow it may be made in the fourth space) close to the edge of the sternum, and the needle of a Dieulafoy's or Potain's aspirator is then introduced close against the bone; the needle first follows exactly the sternal edge, and then the posterior face of this bone for a centimetre; the needle is then pushed directly downwards and a little backwards to a depth of several centimetres until the liquid comes into the aspirator. The needle following the anterior surface of the heart penetrates the antero-inferior pericardial sinus, which is several centimetres deep, bounded above by the heart, below by the diaphragm, and in front by the pericardium. For incision of the pericardium the edge of the

left pleura is found and pushed outwards, the fifth and sixth spaces being too narrow at their sternal end to permit a search for the pleura; two centimetres of the fifth and sixth cartilages are excised by means of gouge forceps, commencing at the edge of the sternum. The intercostal vessels of these spaces and the triangularis sterni are then pushed away with the fingers. The anterior face of the pericardium is then sought for with the index finger, and the edge of the pleura is pushed outwards along with the triangularis sterni, the mammary vessels and the soft parts forming the walls of the two spaces. At the bottom of the wound, which is 6 cm. by 3 cm., the pericardium is recognised by its white, pearly colour.—*Gaz. des Hôp.*, No. 149, 1895, and *Quarterly Journ. Med. Science*, April, 1896.

A Case of Endocarditis and Pericarditis with Effusion; Accidental Tapping of the Right Ventricle after Apparent Death followed by Recovery.—Dr. A. T. Sloan reports the case of a girl, nineteen years old, who was attacked by severe erysipelas which lasted for five days; then acute articular rheumatism came on, and was not much relieved by salicylates. During its continuance a pericardial rub was heard, and after ten days a systolic mitral murmur was also noticed. Then the temperature became higher, and the pulse more frequent; and the heart became considerably dilated. The girl could lie only on her back; difficulty in swallowing came on; the heart's action became slower; in spite of stimulants œdema of the lungs caused extreme distress, so that she seemed moribund. At this crisis, as a last hope, a trochar was introduced into the pericardial sac, to remove any fluid that might be stopping the heart; the puncture was made in the fourth space, half an inch to the left of the sternum. When aspiration was employed, pure fluid blood came, and of this about 10 ounces were withdrawn. She improved somewhat, but for the first twenty-four hours her state was most critical, then she gradually though steadily improved, and ultimately recovered.

Dr. Sloan has gathered statistics of various cases in which the heart was tapped either on purpose or accidentally. Several patients survived for days or weeks, one as long as five

months. His case appears to be the only one which ended in complete recovery.

In cases of suffocation and of some forms of poisoning, especially with chloroform, Sloan advises puncture of the right ventricle to be adopted as a last resource. The chief danger lies in the possible wounding of a coronary artery.

In the discussion on this case Byrom Bramwell said such a procedure should only be undertaken in the very most extreme cases. He once had tapped the right ventricle with a small aspirating needle; the patient died in half an hour, and the pericardial sac was full of dark blood. and the puncture was quite plainly seen.—*Edinburgh Med. Jour.*, February, 1895.

X. SYPHILITIC LESIONS OF THE HEART.

Dr. H. P. Loomis (New York) gives the following classification of syphilitic lesions of the heart:—

I. *Gummata.* — 1. Recent—soft, reddish or grayish masses; 2. Old—dry, yellow, cheesy nodules.

II. *Fibroid Induration.*—Localised—well-defined masses, large size; Diffused—accompanied by inflammation of arteries; Intermediate Form—outer zone of gumma develops into fibrous tissue; cheesy centre remains as fibroid mass.

III. *Amyloid Degeneration.*

IV. *Endo-arteritis Obliterans, often inducing Infarctions.*

Gummata are usually found in the wall of the left ventricle, rarely in that of the right. They vary in size to that of a large olive. They are not circumscribed, but their peripheral portion blends indistinctly with the surrounding muscle, between the fibres of which, under the microscope, can be seen cellular prolongations from the tumour.

It is often difficult to diagnosticate with the naked eye gummata from sarcomata, solitary tubercles, or the beginnings of abscess. Microscopically gummata resemble some sarcomata, but differ in their tendency to form large cheesy centres. Tubercular lesions elsewhere, and the presence of tubercle bacilli are characteristic of tubercular lesions. In abscess of the heart-wall there is no basement membrane, or

blood-vessels between the round cells, and stained sections may show pyogenic organisms.

None of the four cases of gumma, which came under Dr. Loomis' observation, were diagnosticated during life; two of them died suddenly from the lesion. Details of these cases are given.

Fibroid induration of syphilitic origin presents three appearances:—

1. A well-defined fibroid area, from which the muscle-fibres have disappeared. These areas vary from a quarter to half an inch in diameter, are localised, and ordinarily have no connection with the endo- or pericardium, being situated in the substance of the heart.

2. Irregular patches of new fibrous tissue are seen in the wall of the heart. Sometimes they are very diffuse, and often the serous membrane over them is thickened and puckered. These appearances do not differ much microscopically from fibroid myocarditis due to other conditions, though on careful examination the minute arteries in the heart-wall almost always show evidence of obliterating endo-arteritis.

3. There appears to be an interstitial myocarditis of syphilitic origin, the appearance no doubt being due to the partial absorption of a gumma.

Dr. Loomis has seen fifteen cases of fibroid myocarditis, three of which were certainly syphilitic; he has seen only one case of amyloid disease. When symptoms of cardiac failure occur during the prime of life, for which no cause can be ascertained, especially in a patient who has had syphilis, they should suggest syphilis as a cause for the heart trouble. A rapid improvement in the patient, and the amelioration of the cardiac symptoms, which quickly follows antisyphilitic treatment, are important factors in arriving at a positive diagnosis of syphilis of the heart.

These patients either die suddenly, having shown but few if any symptoms directly traceable to faulty heart-action, or succumb apparently from syphilitic marasmus with all the symptoms of a slowly increasing heart-failure.—*Amer. Jour. of Med. Science,* October, 1895.

XI. ON THE USE OF SALICYLATE OF SODIUM AND BROMIDE OF POTASSIUM IN THE IRRITABLE TEMPER OF CARDIAC DISEASE AND GOUT.

After calling attention to the well-known fact that an irritable temper is undesirable, both for its possessor and for those who come into contact with him, Dr. Lauder Brunton shows that in some cases this irritability is not due to a moral wrong, but to gout. In some gouty people twenty grains of bicarbonate of potash, with ten or twenty grains of bromide of potassium, taken when the feeling of irritability comes on, frequently soothes it, and has the further effect of lessening the worry even in those who are not irritable. If this "temper powder," as he calls it, be taken when some irritating occurrence takes place, or some depressing news is heard, it appears to take away the sting of either, so that in place of being much worried, and unable to turn his attention to other things, the person feels as if he had slept over the bad news or the worry.

In cardiac disease, too, irritability of temper is by no means an infrequent symptom. It occurred to Dr. Lauder Brunton that the irritability of heart disease might be relieved by the use of bromide of potassium and salicylate of sodium, and he has had considerable success in using this combination. The subjective feelings of the patients were improved, and while they had previously denied any improvement under the use of digitalis and other cardiac remedies, even though these might have improved the objective condition, they acknowledged, after a few doses of bromide and salicylate, that they felt better. The bromide acts as a simple sedative to the nerve-centres; the action of the salicylate is not so clear, but it may act indirectly by the removal of uric acid.—*Practitioner*, July, 1896.

XII. ÆTIOLOGY AND TREATMENT OF CERTAIN KINDS OF COUGH.

Beverly Robinson (New York), calls attention to the fact that some coughs are uninfluenced by all the ordinary remedies.

I. The cough may depend on an engorged lingual tonsil. This cough is frequent, dry and paroxysmal. At times the

cough is occasioned by the sensation of a foreign body lodged at the base of the tongue, like a bristle or crumb; but it is impossible to dislodge anything. Accompanying the cough there may be a continuous desire to swallow, and there may be the feeling of a constricting band round the throat—this feeling is worse at night. With the laryngoscope the glosso-epiglottidean fossa is seen to be more or less completely filled up and distended by a slightly irregular but rounded mass of lymphoid tissue, in colour sometimes deep red, sometimes pale. It may be symmetrical or not. Sometimes it covers the top of the epiglottis. Frequently this mass is crossed by large veins. These may burst and cause considerable hæmorrhage. These enlargements are most common in middle life, especially among women who suffer from menstrual derangements, constipation, rheumatism or gout.

This cough should be treated with large doses of salicylates internally, with local applications of the galvanic cautery, or of compound tincture of iodine.

II. A form of cough which occurs in children, especially at night, is due either to the dropping of thick muco-pus or muco from the naso-pharynx on or into the larynx, or to local congestion of the posterior ends of the inferior turbinated bodies, or it may be due to hypertrophy of the pharyngeal tonsils. In the first case when the tongue is depressed a mass of mucus is seen below the soft palate squeezed down by the forced contraction of the child's muscles. If the pharyngeal tonsil is enlarged, Robinson scrapes it with the finger nail. When there is no enlargement of it, a nasal spray of albolene with camphor, and applications of carbolic acid and glycerine (from 1 to 8 to equal parts of each ingredient), have been found useful. It is important to avoid overloading the child's stomach at night.

III. Hypersensitive areas in the tonsillar region, on the soft palate, or about the hyoid bone, or epiglottis, may cause cough. Such should be destroyed, while internally codein in doses of gr. $\frac{1}{10}$ more or less, frequently repeated, and terpin hydrate in tablet form of 1 or 2 grs. each, every 2 or 3 hours, are most useful.

IV. Wax, or irritations due to any cause in the ear will cause cough. Sometimes there is no wax and nothing very

evidently amiss, yet it will be found that there are spots of tenderness somewhere in the meatus, most often on the posterior inferior wall near the tympanic membrane. Repeated applications of alcohol or solution of corrosive sublimate (1–1000), or of silver nitrate (1–100) will cure this condition.

There are other individuals apparently in good health who are constantly hawking, coughing, and expectorating. Usually these patients are very gouty; they may have a congested pharynx and a long uvula. Salicylates of soda and lithium salts are the best remedies for this state.

In many cases of cough of various kinds benefit is obtained from dry vapour inhalations. The best combination for this purpose consists of equal parts of menthol, camphor, and eucalyptus oil. It forms an inhalation useful both for throat and nose. Spirit of chloroform may be added to it.—*Am. Jour. Med. Sci.*, Nov. 1895.

XIII. HOW TO CURE A COUGH.

America seems to be the habitat of specialism. One of the most recent periodicals devoted to special branches of medicine or surgery is the *Journal of Orificial Surgery*. Volume III. of this periodical besides containing an article on "Orificial Philosophy," gives a most valuable and interesting account of how a cough is cured in Kansas.

Dr. F. M. Cooper while enjoying his holidays at Manitou, was consulted by a pleasant-mannered, blue-eyed Swedish lady, aged twenty-six years, who had the misfortune to be suffering from a cough and nervous troubles of various kinds.

The patient was obliged to come to the doctor's house and reside there. Then followed phosphate of iron, chloride of potassium, galvanisation of the abdomen, faradisation and dilatation of the rectum. Then galvanism was applied to the solar plexus and to both pneumogastrics, a nasal spray was employed, verbascum oil was poured into the ears, then her hymen was excised, more dilatations were performed, and faradic electricity was extensively employed; her diet was regulated, and she was given oxygen to inhale. Under this treatment she recovered "as suddenly as an avalanche falls

in the Rocky Mountains, or a landslip in the Sierra Nevada." A poem by an anonymous author closes the account.

XIV. SALICYLATE OF METHYL—ABSORPTION BY THE HEALTHY SKIN.

Linossier and Lannois showed in 1894 that guaiacol was absorbed by the healthy skin without the aid of friction, and advocated its external use as an antipyretic in tuberculosis. They have recently experimented with the salicylates. Salicylic acid being but slightly volatile at the temperature of the skin, they employed salicylate of methyl, which constitutes $\frac{9}{10}$ of commercial oil of winter green. After the application of 4 grammes to the skin of the thigh, the presence of salicylic acid was demonstrated in the urine in half an hour, elimination reaching its maximum in six to nine hours. At the end of twenty-four hours 25 to 35 per cent. had been excreted. A large proportion was never found after administration of 4 grammes of salicylate of sodium by the mouth. Intestinal elimination is also considerable, the fæces containing it in large quantity. The daily elimination by the kidneys during a course of treatment is almost constant. That the drug is absorbed in the form of vapour is shown by the appearance of salicylic acid in the urine after the following procedure:—The forearm is enclosed in a double case made of two concentric cylinders of wire gauze, 1 cm. distant from each other; bandages impregnated with salicylate of methyl are wrapped round the external cylinder, and are thus at least 1 cm. distant from the skin at all points; the whole is surrounded by an indiarubber bag, and precautions adopted to prevent absorption by the lungs. In practice the indications for the external application of salicylate of methyl are the same as that for the internal use of salicylate of sodium, and in the experience of the authors the former method is as successful as the latter. Moreover, it does not interfere with digestion, and possesses the further advantage of being capable of application *loco dolenti*. The drug should be painted on the skin with a brush, and the limb covered with an impermeable tissue and wrapped in wadding for twenty-four hours. Mixture of the drug with vaseline or lard considerably retards absorption. The skin remains perfectly healthy even after

repeated applications.—*Bull de l'Acad. de Méd.*, 1896, *and Quarterly Med. Jour.*, July, 1896.

XV. THE TREATMENT OF OXYURIS VERMICULARIS BY NAPHTHALIN.

Dr. Schmitz has had very good success with this drug, using it in the following manner:—After having cleared out the child's bowels with liquorice powder or with calomel and castor oil, he gives four doses of naphthalin a day for two days. The dose varies from 2½ grains for a child one and a half years old, to 6 grains for one of twelve years. It is best given in capsules, but may be mixed with sugar. After a week eight more powders are administered in the same way, and also again after another week. The naphthalin should not be given immediately after food, and fatty food should be avoided. A purgative should be given if the bowels are not quite free during the treatment.

Out of 46 cases thus treated, 26 were completely cured. In the other cases some improvement took place for a time, but subsequently the troubles due to the worms returned. In such cases Schmitz recommended a repetition of the treatment.

Naphthalin being very insoluble in water, passes through the intestinal canal without being absorbed, hence it is a very suitable substance for use as a vermifuge. It is more reliable and less poisonous than santonin.

The author in order to test the naphthalin, did not use any form of intestinal irrigation. This, however, would certainly be a useful addition to the treatment. For this purpose Unger recommends the use of liq. aluminii acetatis, a table-spoonful; water, two pints. Its astringent action allays irritation, and also helps to kill the parasites.—*Jahresb. f. Kinderheilkunde, Bd.* 39, 1895. *Heft* 2 & 3.

XVI. BISMUTH NAPHTHOLATE.

Edmond Chaumier regards beta-naphthol as the best of all intestinal antiseptics, although it has a disagreeable taste. It can be prescribed as a mixture with some bismuth salt or as a combination—beta-naphthol bismuth, which has no burning taste. The last in the alimentary canal decom-

poses, breaking up into naphthol and bismuth oxide. It is a grey powder, slightly aromatic, and contains 26·5 per cent of beta-naphthol. In infantile diarrhœa the fœtid stools lose their odour, the watery evacuations become thicker, and the green colour disappears under the influence of this drug. It can be administered in 2 to 5 per cent. solution in quince-syrup, of which the dose is one teaspoonful. In diarrhœas of larger children and of adults the remedy acts quickly, and with an efficient dose—75 to 150 grains in wafers—they disappear within one or two days. If the pain is severe, opium may be added. For both infants and adults it is well to continue the remedy for some time after the diarrhœa has stopped. The diarrhœa of the tuberculous is of great importance because it interferes with nutrition, emaciates the patient, causes them to lose strength, and prevents the administration of proper remedies. The remedy has been used as well in the temporary diarrhœa, which in a few days will undo the benefits of several months, and in the chronic form, which is almost continuous and constitutes the principal lesion. In the first case stop the creasote carbonate, the only active and safe drug against tuberculosis, and give naphthol bismuth, not only during the disease, but for several days after.—*Amer. Jour. Med. Sci.* April, 1896.

XVII. THE USES OF CAFFEIN.

Caffein acts on the respiratory organs directly, by inducing relaxation of bronchial spasm, and indirectly through its tonic action on the heart. Dr. Markham Skerrit directs special attention to the first of these effects. In his experience, caffein holds the first place in the treatment of spasmodic asthma. During the paroxysm five grains are ordered frequently until the bronchial spasm is relieved, after which it is given at longer intervals to prevent a relapse. When the attack comes on fairly regularly every morning and evening, a dose of five or ten grains will often prevent it altogether; or render it so slight that the patient is able to sleep through it. Caffein also relaxes the bronchial spasm which is so frequently present in acute or chronic bronchitis and emphysema and thus relieves dyspnœa, in so much as it is due to this factor. The author has observed

no ill effects from its use except occasional wakefulness.—*Practitioner*, April, 1895

XVIII. ON CHLORALOSE IN DELIRIUM TREMENS.

L. Hascovec bears witness to the very good results he has obtained with this drug. On receiving 0·6 gram. (9 grains) of chloralose the patients fell asleep, and on waking they were free from delirium, and soon recovered from their illness.

Even if it were possible to obtain equally good results with chloral, still chloralose would be preferable, as it exercises absolutely no injurious effect on the heart.—*Compt. Rend. de la Soc. de Biologie*, Dec. 21, 1894.

XIX. CHLORAL.

The *Medical Record* for September 21st, 1895, contains an editorial on the subject, in which the writer says that chloral is usually considered to be essentially a hypnotic and sedative drug. It has, however, he says, quite a number of other uses. In New York it has long been employed, in small doses, as a vaso-dilator, two or three grains being given, combined perhaps with iodide of potassium. Associated with this same drug, Dr. Pal finds it of service in bronchial asthma, and the same physician has found it effective also, in doses of from ten to twenty grains, in checking bleeding from the lungs. On the same principle—that is, on the principle of its relaxing arterial tension—Dr. Cherchevsky has used it in small doses daily to counteract coldness of the feet and hands, which are such disagreeable symptoms in some cases of anæmia and neurasthenia. Dr. Pal has also recommended chloral hydrate as a laxative in various forms of chronic constipation, principally those of neuropathic patients. The dose here, however, is more than twenty grains, and, as the *Practitioner* truly says, the drug must be a dangerous one to use for such a purpose.

M. Spehn recommends chloral very highly as a local application for boils. He directs that the boil should be kept covered with a tampon of cotton well soaked in a solution of chloral hydrate, glycerine, and water. The strength of the solution is about two drachms to the ounce.

A writer in the *Semaine médicale* recommends chloral for children who are irritable and restless when suffering from scarlet fever. Another use of chloral is in certain forms of dyspepsia in which there is a sense of distension with pain in the neighbourhood of the cardiac end of the stomach. This dyspepsia usually occurs in neurotic persons and may be termed a nervous type of the disorder. According to the *Therapeutic Gazette*, a little chloral hydrate (one or two grains) dissolved in peppermint water is of service here.

Chloral is recommended by Playfair, in his text-book, for dilating the rigid cervix during the early stages of labour.

The writer is somewhat loath to give chloral any more prestige than it already has. Still, he adds, it is a drug which has been shown to be of some service in epilepsy, and which is one of the sheet-anchors in acute alcoholism; but it is also a drug whose continued use, even in rather moderate doses, is sure to injure the patient eventually. Chloral needs always to be given cautiously at first, and never for prolonged periods of time.—*N. Y. Med. Jour.*, Oct. 5th, 1895.

XX. CALOMEL.

Dr. W. Blair Stewart has made a clinical study of the use of this drug in 144 cases, chiefly of gastro-intestinal disorders. He finds that 1 grain of thoroughly triturated calomel is equivalent to 5 to 10 grains of the untriturated drug. If given for its purgative effect or for its action on the liver, $\frac{1}{10}$ of a grain triturated is administered every hour or half-hour until free evacuation occurs, or 1 grain is taken, then, if necessary, ounce doses of *liquor magnesii citratis* can be given until free action of the bowels is obtained. The drug is not a direct diuretic *per se*, but it may act indirectly to a slight extent simply by its general stimulating action upon the emunctories of the entire body, thus favouring secretion, excretion, and the elimination of intestinal ptomaïns and systemic poisons, all of which act unfavourably upon the secretory and excretory organs when present. Seventeen cases of diarrhœa, due to the ingestion of improper food, were speedily cured by $\frac{1}{12}$ of a grain of triturated calomel and one-half this quantity of podophyllin every two hours. Nine cases of so-called bilious diarrhœa in adults responded

rapidly to $\frac{1}{4}$-grain doses every four hours. Sixty-eight cases in children received a saline cathartic as preliminary treatment, then $\frac{1}{100}$ of a grain each of calomel and powdered ipecacuanha was given every one to four hours with "marvellous" results. Twenty-five cases of obstinate diarrhœa, which had been running some days before consultation, responded rapidly to a combination of $\frac{1}{10}$ of a grain of calomel and 1 grain each of lacto-peptine and zinc sulphocarbolate given every two to four hours. Four cases of diarrhœa in typhoid fever were markedly benefited by the same combination. In the diarrhœa following excessive use of alcoholic liquors, excellent results were obtained from $\frac{1}{40}$ of a grain of calomel and $\frac{1}{100}$ of a grain of podophyllin every three or four hours. This clinical testimony is advanced to show the efficacy of calomel and its eliminative power as contrasted with the evil routine methods of using astringents and opium in the treatment of diarrhœas.—*Journal of the American Medical Association*, 1895, and *Amer. Jour. Med. Sci.*, Nov., 1895.

XXI. THE CLINICAL VALUE OF THE PHENYL-HYDRAZIN TEST FOR SUGAR.

Dr. R. T. Williamson, after a prolonged experience of this test, considers it valuable and useful, especially in cases in which it is doubtful whether the urine contains a small quantity of sugar or not—when, on being boiled with Fehling's solution, the fluid is unchanged at first, but after a time becomes greenish and opaque; and the question arises whether this slight reduction is due to sugar or not.

The objection has been brought against the test that it is too sensitive, that even with healthy urines small yellow crystals are formed. Williamson has observed that when the test is carried out in his method, no crystals are ever formed with normal urine—*i.e.*, the test is not too delicate for clinical use; though when the original method of using the test is carried out, undoubtedly small crystals sometimes are found, even in cases where the urine is perfectly normal.

A second objection is that it, as well as Fehling's solution, will give the sugar-reaction with glycuronic acid. That is the case; but in practice this will not lead to much, if any,

difficulty, as glycuronic acid is only found in the urine while certain drugs and poisons are being taken (chloral, camphor, morphin, curara, &c.), and after chloroform narcosis. It is sometimes present in the urine of patients who are taking salicylate of sodium. If all drugs be discontinued, the glycuronic acid disappears from the urine.

Williamson's "simple" method of carrying out the test is as follows:—"A test-tube of ordinary size is filled for about half an inch with hydrochlorate of phenyl-hydrazin in powder; then acetate of soda in powder or small crystals is added for another half inch. The test-tube is then half filled with urine and boiled over a spirit lamp, the powders passing into solution as soon as the liquid is heated. After the urine has reached the boiling point I always continue to boil for two minutes. The tube is left in the stand, and examined again some time afterwards. If sugar is present a yellowish deposit forms, which under the microscope is seen to consist chiefly of beautiful needle-shaped crystals of a bright sulphur yellow colour. The crystals are often found after the urine has been standing for half an hour; but after boiling the tube I have generally placed it in the test stand, and not examined the deposit until at least six or eight hours afterwards. If no sugar is present, only brownish amorphous globules, or yellowish scales are found."

The test when thus carried out is very sensitive; a diabetic urine so diluted with water as to contain only 0·015 per cent. of sugar gave no reaction with Fehling's solution and no indication of sugar by the fermentation test, but with the phenyl-hydrazin test showed a distinct deposit of long yellow crystals.—*Med. Chronicle*, Aug., 1895.

DOMESTIC ECONOMY.

The city physician of Rochester, Dr. Seitz, while visiting a house on Caswell Court, an over-populated street, recently, discovered that a pan of dough had been placed to rise in the bed of a boy, ill of diphtheria. A quilt was thrown over the patient, and the dough. There are four other children in the family.—*Jour. A. M. A.*

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—James Little, M.D., F.R.C.P.I.

General Secretary—William Thomson, F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—J. M. Redmond, M.D.

Sectional Secretary—Ninian Falkiner, F.R.C.P.I.

Friday, April 17, 1896.

The President in the Chair.

Summary of Small Matters on Preventive Principles.

Dr. Walter Bernard read a paper on this subject. [It will be found in Vol. CI., page 393.]

Dr. Edgar Flinn asked whether the Infectious Diseases Act was enforced in Londonderry. If it was there must be a great defect in the urban sanitary authorities when the children were allowed to run about the streets in a state of desquamation after scarlatina.

Dr. Doyle wanted to know the disinfectants Dr. Bernard used, and how long the process lasted.

Dr. Bewley asked whether a separate apparatus was supplied to each family where there was scarlatina.

Dr. Bernard, replying, said the Infectious Diseases Act was only partially enforced. The antiseptic he uses was eucalyptus oil and carbolic acid. This was heated, and the articles were fumigated for a considerable time. The apparatus was 6 feet long and 13 inches wide, and could be carried from one house to another after being rendered aseptic.

Criminal Responsibility in the Insane.

Dr. Conolly Norman read a paper on the above subject. He reviewed the history of the law dealing with criminal responsibility, tracing the stages by which it arrived at its present position. He pointed out that the dictum of the judges in the MacNaughten case, which had often since been accepted as an authoritative statement of the law, had, properly speaking, no such character. Neither the House of Lords who asked the questions, nor the judges who replied, could be recognised constitutionally as having any power to make laws, and the opinion of a judge or of all the judges, on an abstract point, has no more binding value than that of any other person, and does not constitute a precedent nor an authoritative interpretation of the law as it might do if enunciated from the bench on the trial of a concrete case.

The speaker proceeded to point out the injustice and absurdity of the supposed legal tests of responsibility, as applied to the insane, since a strict application of the criteria of knowledge of the nature of the act done or of knowledge of right from wrong would lead to all the insane being held responsible, with the exception of low-class idiots and a few acute cases. At the same time, Dr. Norman deprecated anything like an attempt at present to substitute medical for legal definitions in this matter. Our knowledge of insanity is still so limited that we cannot define its conditions, and to endeavour to define that which is indefinable is to risk repeating the mischief already done and laying down criteria the validity of which will soon be as disputable as that of the former ones. Owing to a variety of circumstances with which the speaker dwelt in some detail, there is not, he thought, much, if any, practical injustice done under the present state of the law, however unjustifiable it may theoretically be.

Dr. Bewley was glad to hear that Dr. Norman could not suggest any definite line upon which the law should be amended, and that it was a mistake to define insanity. Dr. Norman did not take up the question of self-control. He showed most persons knew whether a certain act was right or wrong. There were two other sets of circumstances to take into consideration. The intensity of the desire to do wrong, and the power or want of power to prevent themselves from doing wrong. There is no way of estimating the power of self-restraint. If a man wants to do right and his power of self-control is diminished or lost, he may still be unable to resist doing things which he knows perfectly well are wrong. Persons have put themselves into asylums to prevent themselves

giving way to these morbid influences. Criminals who are not insane, often from education and surroundings have diminished power of self-control. A little insanity and a great deal of wickedness, and a little wickedness and a great deal of insanity, merge very much into one another. Medical men are not always the best judges of insanity. They are too much inclined to believe that criminals are to be treated and not punished. An ordinary jury, helped by a judge who is not influenced by the absurd statements of judges fifty years ago, perhaps would come to the right conclusion. In the case of a person capable of pleading, the jury has the power of deciding that he was insane at the time he committed the act. In which case he is sent to a criminal asylum.

Dr. Potter said the wills of insane people were not good in law. They are not allowed, first, on the ground of undue influence, and secondly, that the person was not of sound mind when he made the will. He quoted the Bagot case to prove this.

Dr. McWeeney wished to know in what position, with regard to sanity or insanity, Dr. Norman would place habitual criminals who, from their very earliest days, have a tendency to the committal of crime. When a person comes up for the eleventh or twelfth time charged with robbery, &c., the question should be taken into account whether the power of self-control has become so lowered that it could be said to no longer exist. A considerable number of our criminal population belong to this class, and a very important question is what is to be done with these people. A vast amount of money has to be spent in keeping them from doing harm.

Dr. Doyle said that in every individual there was a time in which he was insane. He often regretted that medical men went into the witness-box, in a case of lunacy, to give positive evidence. They should tell the judge that they could not define a case of lunacy. At one time he had charge of the criminals at Spike Island. He believed that one-third of them suffered from different forms of lunacy.

Dr. Parsons said there was one point on which Dr. Norman did not touch—namely, how far a person could be held responsible for bringing about an attack of acute mania. A short time ago a doctor in the West of Ireland, suffering from *delirium tremens*, shot a near relative. He barely escaped being hung. If insanity was pleaded would it not be better to have the person examined by four or five medical witnesses, and that the jury should be guided by them and not by the judge.

Dr. Edgar Flinn said he heard a woman appeal to a medical

man to send her to an asylum to prevent her murdering a deformed child, to whom she had an intense hatred. She was subsequently sent to an asylum.

Dr. Norman, replying, said he did not dwell on the question of control which Dr. Bewley raised. It was of immense importance. "Irresistible impulse" was a term too freely used by medical men. Nobody doubted that such a thing existed. But the word impulse was rather vague; and it is impossible to say what is irresistible, because that was known only to the man to whom the impulse occurred. It was better to look out for other signs of insanity than irresistible impulse. He thought the question of a criminal being insane should be left to the jury to decide. A question of life or death should not be left to a single expert or body of experts. The chief cause of complaint of medical witnesses was that one judge wanted nothing but facts, and another wanted one's opinions. The law regarding a lunatic giving evidence was much the same as that of a lunatic making a will. He could give evidence if he understood the nature of an oath and if he had not delusions on the point at issue. He can make a will if his memory is sound and in case he has not delusions which refer to his relations or others that would be benefited by the will.

Village Water Supplies in Ireland; Parknasilla as a Winter and Spring Health Resort.

Dr. Edgar Flinn read two papers—one on "Parknasilla as a Winter and Spring Health Resort" [which will be found in Vol. CI., page 399], and the second on "Village Water Supplies in Ireland." [This paper will be found at page 110, Vol CII.]

The Section then adjourned.

SECTION OF SURGERY.

President—Sir Thornley Stoker, President of the Royal College of Surgeons.

Sectional Secretary—Mr. Kendal Franks.

Friday, May 1, 1896.

The President in the Chair.

Notes on Ovariotomy.

Sir William Stokes read a paper on this subject. [It will be found at page 1.]

Mr. Fitzgibbon said that the best incision was one which would let the operator's hand into the abdominal cavity with ease.

Mr. Tweedy did not think that general surgeons should perform the operation of ovariotomy. All the tumours mentioned by Sir William were large. The larger the case the more difficult was the diagnosis and the operation. In none of the cases were the symptoms mentioned of any practical value as regards the diagnosis of an ovarian tumour. A fibro-myoma would present the same symptoms, as far as measurements were concerned. A fibro-myoma often lasted for years without any menstrual show. Was the general surgeon prepared to operate on a fibro-myoma in which there might be extensive adhesions to the intestine, bladder, and ureter? Was he aseptic enough? A general surgeon meets every day with septic cases, and had his hands bathed in pus. As regards the operation for ovarian tumour there was generally no difficulty in it when once it was diagnosticated. The only way to diagnosticate an ovarian tumour was to feel the pedicle and the round ligament. The person who diagnosticated the case should operate on it. The necessary asepsis could be obtained only in a room wholly set aside for abdominal surgery and not in an ordinary operating theatre. As regards the abdominal incision, if the tumour was cystic, by tapping the cysts an enormous tumour could be brought through a small incision. The larger the incision the greater the danger of abdominal hernia, though if the operation was strictly aseptic and no stitch abscess formed, there was very little fear of abdominal hernia. In ligaturing the stump the danger was not that the stump might die, but that the stump might become adherent to the intestine, and intestinal obstruction follow. A good precaution to prevent adhesions was to suture the peritoneum over the stump. There was another danger, that the ligature might slip. The best knot to tie on a small stump was a Staffordshire knot, although even it sometimes slipped. Martin, of Berlin, ligatured the ovarian ligament as well as the stump. He wished to know how Sir William stitched up the abdominal incision.

Mr. William Thomson said the length of the incision entirely depended upon the size and character of the tumour. It was never desirable to make an incision longer than was necessary, and therefore he first made a small one and enlarged it as required. Sir William Stokes had rightly claimed that these cases should be operated upon by the general surgeons. Mr. Tweedy's claim was for the gynæcologist. But when it came to a question of septic hands, he wanted to know what position the gynæcologist held in that respect after his morning's work of examination of his cases.

If a general surgeon was not fit to open a serous cavity because of the state of his hands, then he ought not to operate at all or touch a wound. Yet, in spite of this supposed inability to have aseptic hands, septicæmia had been practically banished from general hospitals. Mr. Tweedy said that the case ought to belong to the person who diagnosticated it—meaning the gynæcologist. But this assumed that no one else could diagnosticate an ovarian tumour, and that a gynæcologist was necessarily able to operate. This whole question of diagnosis was abandoned when it was laid down that doubtful cases were to be determined by opening the abdomen. Anyone could diagnosticate under such conditions. This claim was an impossible one. The gynæcologists had been taught by the general surgeon, to whom was due the splendid developments in abdominal surgery.

Mr. Croly said that the only difficulty he found in ovariotomy was the diagnosis. His ovariotomy and hernial cases did best with rectal feeding for three days after the operation. He strongly condemned Spencer Wells' trocar and canula. Having made the abdominal incision, he punctured with an ordinary scalpel.

Mr. M'Ardle said that a general surgeon might cut into the liver, might remove the kidneys or spleen, but he was not to be allowed to touch an ovarian tumour. It was a great deal more dangerous to deal with a kidney than with an ovarian tumour. He had had to remove portions of the bladder and to interfere with the intestines and ureters, and had no calamity. He agreed with Dr. Tweedy that a long stump was a great danger on account of its adhering to the intestines. He had to open the abdomen twice on this account.

Dr. Winifred Dickson said that a gynæcologist did not meet with much pus because the general rule was that the patient was douched before being examined. The vagina did not generally contain streptococci or staphylococci, and the gonococcus was not particularly dangerous in the peritoneum. If a case was suspected to be one of cancer it was not examined on the day of an operation. As a general rule gynæcologists operated early in the morning, before going round the hospital. She thought nobody used Spencer Wells' trocar now. One point about the after-treatment, not mentioned by Sir William, was that the sooner purgatives are begun the more quickly the patient seems to recover. A great many people gave a purge twelve hours after the operation.

Mr. Lentaigne said that in cases of laparotomy a great diminution in shock could be effected by avoiding injury to the peritoneum by a foreign fluid. He now always douched and irrigated with sterile

normal saline solution. In suturing the wound he first sutured the peritoneum, and then the layers of the abdominal wall with silk, and, lastly, the skin with catgut. He then sealed up the wound with celloidin, and used no dressing except to prevent it from being rubbed by the bed-clothes. The wound could be seen through the transparent celloidin. The celloidin was a great improvement in the treatment of strictly aseptic wounds. He thought it made no matter whether a man was a general surgeon or a gynæcologist; if he was a good surgeon he should do ovariotomy all right. The best means of asepticising the hands is with oxalic acid. If an operator opened the intestine, it might be easily as bad as if he had touched some pus, still he could make his hands clean and finish the operation. He could not altogether agree with Dr. Dickson in thinking the gonococcus of no harm.

Sir William Stokes, replying, said that Mr. Tweedy said that large tumours were difficult to diagnosticate. That was not in accordance with his experience. His fourth case was a very small ovarian tumour, and it was very difficult to diagnosticate. He also stated that unless the pedicle could be felt an ovarian tumour could not be diagnosticated. A considerable number of ovarian tumours had no pedicle at all. He agreed with Mr. Thomson with regard to the incision. In Germany they made very large incisions, but it increased the shock of the operation and the tendency to the formation of abdominal hernia. He always transfixed the pedicle before tying it $\frac{1}{2}$ to $\frac{3}{4}$ inch above where the section was made, and he thought there was no possibility then of it slipping. In stitching the abdominal wound he did it the same way as Mr. Lentaigne, but without the celloidin dressing. If Wells' trocar was used with discretion there was no danger. With it there was less chance of the contents getting into the peritoneum.

The Section then adjourned.

SECTION OF MEDICINE.

President—Thos. W. Grimshaw, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. Montgomery, M.R.C.P.I.

Friday, May 8, 1896.

Dr. Walter G. Smith in the Chair.

Living Exhibits.

Dr. A. R. Parsons exhibited the following patients:—(*a*) A Case of Ataxic Paraplegia; (*b*) A Woman with Atresia Auris, Unilateral Facial Paralysis, and Loss of Sensation of Taste; (*c*) A Case of Hemichorea; (*d*) A Case of Empyema.

Case of Suppurative Pericarditis treated by Drainage.

Dr. O'Carroll read a paper on the above subject. [It will be found at page 11].

The Chairman said he thought Dr. O'Carroll's paper gave great encouragement to the early exploration of similar cases, as the operation seemed devoid of danger, and when performed in time gave satisfactory results.

Dr. M. A. Boyd related the particulars of a case in which he drew off four ounces of serous fluid and the patient recovered. The temperature might be normal, with pus in the pericardium. In children broncho-pneumonia often preceded the collection of fluid in the pericardium. He thought that paracentesis should be resorted to more frequently than at present in cases of pericarditis in children.

Dr. Doyle asked was the pericardium sutured to the integument in the surgical operation succeeding the operation of tapping, as if so this might account for the secondary infection of the left lung.

Dr. Heard drew attention to the remarks of Dr. Ewart, of London, that a patch of dulness might be detected at the inner side of the angle of the left scapula at the base of the left pleura as an early symptom in these cases.

Dr. Drury asked Dr. O'Carroll to mention the exact site selected for the operation, as it had been recommended some time ago to tap the pericardium as close as possible to the left margin of sternum in the 4th interspace. He had examined a large number of subjects in the dissecting-room, T.C.D., and found that in a considerable proportion of cases either the internal mammary artery or vein would be wounded by such a proceeding.

Dr. Finny said that in his long experience he had met with only one such case of suppurative pericarditis requiring operation. The result was fatal, the fault being one of omission rather than commission; as, though he tapped the pericardium 1 inch outside the sternum, between the 4th and 5th ribs, and drew off 8 ounces of purulent fluid, giving immediate relief, a second attempt to perform the same operation with a larger needle did not succeed, as for some unaccountable reason he failed to reach the pericardium The *post-mortem* examination revealed a large collection of pus in, the pericardium. He thought that pericarditis was comparatively a rare disease, and extensive pericardial effusion was very rare, and consequently the cases requiring tapping were very few; but when the symptoms did not yield to other forms of treatment tapping should be resorted to, and especially so when the contents were believed to be purulent in nature.

Dr. Carroll, in reply, said that he left the surgical details to Sir Thornley Stoker, who performed the operation for him. There was no infection of the left pleura, as the fluid which it contained was a clear serous fluid, due to the cardiac failure which occurred at the end of the patient's life. Though he had carefully examined the patient's chest he had not remarked the symptom referred to by Dr. Heard. In reply to Dr. Drury, he stated that in making his puncture he had selected a point in the fourth space a thumb's breadth internal to the nipple line.

Leucocythæmia.

Dr. Craig read a short paper on Leucocythæmia. [It will be found at page 187].

The Chairman asked if arsenic had been administered in this case, or if the treatment by marrow fat had been tried. He laid stress on the great advance that had been made in the microscopic examination of the blood in these cases, and thought that it should more generally be carried out in hospital practice, as the process was not a difficult one; he thought that the specific significance clinically of the various leucocytes was still very doubtful. He stated that the continuous use of arsenic in chronic cases was not devoid of danger, as peripheral neuritis might follow as a result. He mentioned the great chemical changes that occurred in the urine in this disease. The uric acid increased and xanthine bodies also increased. The normal oxidising power of the body was not seriously affected.

Dr. Boyd mentioned that he had treated a case of the lymphatic form, in which there was marked tenderness of tibiæ, sternum, and

ribs. Under arsenic there was distinct improvement (proportion of leucocytes 1–300). The patient was then put on bone-marrow, but distinct relapse occurred (leucocytes 1–20). On returning to the arsenic treatment improvement again took place, and the patient returned to the country, where, however, he relapsed again, and died in three or four months.

Dr. Craig, in reply, said that he had tried arsenic, but as it caused diarrhœa and pain in the stomach, he had to cease administering it. He had thought of using marrow fat, but had to content himself with trying to keep his patient alive.

Notes on Clinical Cases.

Dr. A. R. Parsons read notes of the above. [They will be found at page 196].

The Chairman said that in such cases the heart was generally the first organ to return to its normal position. After aspiration, the effects of the diplococcus of pneumonia seemed more amenable to treatment than those of the streptococcus. The examination of the pus drawn off was therefore of the greatest consequence. He agreed with Dr. Parsons that a peculiar tympanitic note on percussion with roughness on breathing, were often the first symptoms in such cases as he related.

Dr. Doyle questioned whether the heart was not now displaced to the right, and the right lung still considerably unexpanded. He agreed that good results followed washing out the pleural cavity with antiseptic solution.

Dr. Parsons, in reply, said that he did not claim that the organs had fully recovered both position and function, but considered that the improvement, so far as it went, was remarkable.

The Section then adjourned.

SMITH'S PHYSICIANS' AND SURGEONS' VISITING LIST FOR 1897.

Messrs. Hazell, Watson & Viney (late John Smith & Co.), 52 Long Acre, London, W.C., have forwarded to us a copy of this popular and most useful pocket-book. We have already described its many excellencies on more than one occasion, and have only to state that a mature experience of its practical utility leads us to recommend it with confidence to our readers. The edition before us is No. 1 A, giving two pages a week. It is adapted for entries relating to 25 patients, and has a space intended for daily memoranda.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
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Vital Statistics

For four Weeks ending Saturday, October 31, 1896.

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Oct. 10.	Oct. 17.	Oct. 24.	Oct. 31.		Oct. 10	Oct. 17.	Oct 24.	Oct. 31.
Armagh -	7·0	35·1	21·0	21·0	Limerick -	8·4	21·1	28·1	29·5
Belfast -	18·4	19·2	21·8	21·4	Lisburn -	8·5	12·8	8·5	4·3
Cork -	17·3	13·1	20·8	20·1	Londonderry	20·4	17·3	23·6	18·8
Drogheda -	30·7	17·6	4·4	17·6	Lurgan -	22·8	18·2	13·7	9·1
Dublin -	22·2	20·9	27·0	22·7	Newry -	4·0	12·1	16·1	20·1
Dundalk -	4·2	20·9	20·9	16·8	Sligo -	20·3	5·1	40·6	25·4
Galway -	22·7	18·9	22·7	26·4	Waterford -	20·0	20·0	7·5	40·0
Kilkenny -	18·9	4·7	33·0	18·9	Wexford -	9·0	18·1	18·1	9·0

In the week ending Saturday, October 10, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 16·2), was equal to an average annual death-rate of 16·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·7 per 1,000. In Glasgow the rate was 18·9. In Edinburgh it was 13·5.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 19·1 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in ten of the districts to 4·7 in Londonderry—the 13 deaths from all causes registered in that district comprising 1 from measles, 1 from enteric fever, and 1 from diarrhœa. Among the 98 deaths from all causes registered in Belfast are 1 from measles, 2 from scarlatina, 1 from whooping-cough, 1 from simple continued fever, 1 from enteric fever, and 9 from diarrhœa.

In the Dublin Registration District the registered births amounted to 165—72 boys and 93 girls; and the registered deaths to 158—67 males and 91 females.

The deaths, which are equal to the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·6 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 22·2 per 1,000. During the first forty-one weeks of the current year the death-rate averaged 23·9, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-seven deaths from zymotic diseases were registered, being 2 in excess of the average for the corresponding week of the last ten years, and 11 over the low number in the previous week. They comprise 4 from scarlet fever (scarlatina), 2 from typhus, 2 from influenza and its complications, 2 from whooping-cough, 4 from enteric fever, and 9 from diarrhœa.

Twenty-nine cases of enteric fever were admitted to hospital, against 20 in the preceding week. Nine enteric fever patients were discharged, 3 died, and 121 remained under treatment on Saturday, being 17 over the number in hospital on that day week.

Thirty-four cases of scarlatina were admitted to hospital, being 8 over the admissions in the preceding week, and 1 over that in the week ended September 26. Twenty-three scarlatina patients were discharged, 2 died, and 209 remained under treatment on Saturday, being 9 over the number in hospital at the close of the preceding week.

Five cases of measles were admitted to hospital, being equal to the admissions in the preceding week. Six patients were discharged and 14 remained under treatment on Saturday, being 1 under the number in hospital on that day week.

Only 15 deaths from diseases of the respiratory system were registered, being 9 under the number for the preceding week, and 7 below the average for the forty-first week of the last ten years. The 15 deaths comprise 10 from bronchitis and 3 from pneumonia.

In the week ending Saturday, October 17, the mortality in thirty-three large English towns, including London (in which the rate was 15·7), was equal to an average annual death-rate of 16·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·9 per 1,000. In Glasgow the rate was 18·6, and in Edinburgh it was 17·9.

The average annual death-rate in the sixteen principal town districts of Ireland was 18·9 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·9 per 1,000, the rates varying from 0·0 in eight of the districts to 4·6 in Lurgan—the 4 deaths from all causes registered in that district comprising 1 from enteric fever. Among the 102 deaths from all causes registered in Belfast are 2 from scarlatina, 2 from whooping-cough, 2 from diphtheria, 1 from enteric fever, and 2 from diarrhœa. The 11 deaths in Londonderry comprise 2 from diarrhœa.

In the Dublin Registration District the registered births amounted to 210—122 boys and 88 girls; and the registered deaths to 148—78 males and 70 females.

The deaths, which are 4 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·1 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 20·9 per 1,000. During the first forty-two weeks of the current year the death-rate averaged 23·8, and was 3·2 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 27, being equal to the number in the preceding week, but 4 over the average for the forty-second week of the last ten years. The 27 deaths comprise 2 from scarlet fever (scarlatina), 1 from influenza, 3 from whooping-cough, 1 from ill-defined fever, 7 from enteric fever, 2 (both in the Richmond District Lunatic Asylum) from beri-beri, and 4 from diarrhœa.

The weekly number of cases of enteric fever admitted to hospital, which had risen from 20 in the week ended October 3 to 29 in the following week, fell to 15. Nine enteric fever patients were discharged, 3 died, and 124 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 33, being 1 under the admissions in the preceding week, and 7 over those in the week ended October 3. Twenty-five patients were

discharged, 3 died, and 214 remained under treatment on Saturday, being 3 over the number in hospital on that day week.

Eighteen deaths from diseases of the respiratory system were registered, being 3 over the low number in the preceding week, but 6 under the average for the forty-second week of the last ten years They comprise 15 from bronchitis, 1 from pneumonia. and 1 from croup.

In the week ending Saturday, October 24, the mortality in thirty-three large English towns, including London (in which the rate was 17·1), was equal to an average annual death-rate of 17·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·9 per 1,000. In Glasgow the rate was 20·1, and in Edinburgh it was 16·7.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 23·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·9 per 1,000, the rates varying from 0·0 in seven of the districts to 10·2 in Sligo—the 8 deaths from all causes registered in that district comprising 1 from typhus and 1 from enteric fever. Among the 116 deaths from all causes registered in Belfast are 5 from measles, 3 from whooping-cough, 3 from simple continued fever, and 3 from diarrhœa. The 30 deaths in Cork comprise 1 from typhus, 1 from whooping-cough and 2 from diarrhœa. The 15 deaths in Londonderry comprise 1 from enteric fever and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 160—87 boys and 73 girls: and the registered deaths to 190—97 males and 93 females.

The deaths, which are 32 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·3 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 27·0 per 1,000. During the first forty-three weeks of the current year the death-rate averaged 23·9, and was 3·0 under the mean rate in the corresponding period of the ten years 1886–1895.

Zymotic diseases caused 33 deaths, being 9 in excess of the average number of deaths from these causes in the corresponding week of the last ten years, and 6 over the number registered in the previous week. The 33 deaths comprise 9 from scarlet fever (scarlatina), 3 from whooping-cough, 1 from ill-defined fever, 8

from enteric fever, 5 from diarrhœa, 2 from erysipelas, and 1 (in the Richmond District Lunatic Asylum) from beri-beri.

The number of cases of enteric fever admitted to hospital was 17, being 2 over the admissions in the preceding week, but 12 under the number in the week ended October 10. Twenty-six enteric fever patients were discharged, 2 died, and 113 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week.

Forty cases of scarlatina were admitted to hospital, against 33 in the preceding week and 34 in that ended October 10. Thirty-one patients were discharged, 3 died, and 220 remained under treatment on Saturday, being 6 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered is 21, being 3 over the number for the preceding week, but 6 under the average for the forty-third week of the last ten years. The 21 deaths comprise 15 from bronchitis and 4 from pneumonia.

In the week ending Saturday, October 31, the mortality in thirty-three large English towns, including London (in which the rate was 20·2), was equal to an average annual death-rate of 19·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 18·6 per 1,000. In Glasgow the rate was 21·5, and in Edinburgh it was 15·8.

The average annual death-rate in the sixteen principal town districts of Ireland was 21·9 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in seven of the districts to 12·1 in Newry—the 5 deaths from all causes registered in that district comprising 1 from scarlatina and 2 from whooping-cough. Among the 114 deaths from all causes registered in Belfast are 2 from measles, 3 from scarlatina, 3 from whooping-cough, 3 from enteric fever, and 4 from diarrhœa. The 29 deaths in Cork comprise 1 from enteric fever and 1 from diarrhœa. The 21 deaths in Limerick comprise 1 from scarlatina and 1 from diarrhœa.

In the Dublin Registration District the registered births amounted to 188—112 boys and 76 girls; and the registered deaths to 159—62 males and 97 females.

The deaths, which are 27 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·7 in every 1,000 of the population. Omitting the

deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 22·7 per 1,000. During the first forty-four weeks of the current year the death-rate averaged 23·9, and was 3·1 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 18, being 10 below the average for the corresponding week of the last ten years, and 15 under the number registered in the previous week. The 18 deaths comprise 3 from scarlet fever (scarlatina), 1 from influenza, 2 from whooping-cough, 1 from ill-defined fever, 3 from enteric fever, 3—all of which occurred in the Richmond District Lunatic Asylum—from beri-beri, and 1 from diarrhœa.

Twenty-one cases of enteric fever were admitted to hospital against 17 admissions in the preceding week. Fifteen enteric fever patients were discharged, 1 died, and 118 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The cases of scarlatina admitted to hospital amounted to 45, being 5 over the admissions in the preceding week. Twenty-four patients were discharged, 1 died, and 240 remained under treatment on Saturday, being 20 over the number in hospital on that day week.

Six cases of measles were admitted to hospital against 2 in the preceding week. Eleven cases of the disease remained under treatment on Saturday, being 6 over the number in hospital on the preceding Saturday.

Thirty deaths from diseases of the respiratory system were registered, being 9 over the number for the preceding week, but 3 under the average for the forty-fourth week of the last ten years. They comprise 18 from bronchitis and 11 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of October, 1896.

Mean Height of Barometer,	29·760 inches.
Maximal Height of Barometer (on 13th, at 11 45 p.m.),	30·480 „
Minimal Height of Barometer (on 8th, at 7 15 a.m.),	28·780 „
Mean Dry-bulb Temperature,	43·8°.
Mean Wet-bulb Temperature,	41·9°.
Mean Dew-point Temperature,	39·7°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·250 inch.
Mean Humidity,	86·3 per cent.
Highest Temperature in Shade (on 2nd),	63·7°.
Lowest Temperature in Shade (on 23rd),	30·1°.
Lowest Temperature on Grass (Radiation) (on 23rd),	26·5°.
Mean Amount of Cloud,	57·9 per cent.
Rainfall (on 22 days),	2·515 inches.
Greatest Daily Rainfall (on 7th),	·769 inch.
General Directions of Wind,	N.W., N., W.

Remarks.

As in 1892 and 1895, so in 1896, October proved a very cold month. It was also inclement in the matter of wind and rainfall. Had it not been for a few warm days at the beginning, the mean temperature would have been the lowest on record within recent years. As it was, it only exceeded the record-breaking value of 44·8° in 1892 by 0·2°, and was 4·7° below the average. The rainfall was excessive along the coast south of Dublin—5·925 inches at Greystones, 5·230 inches at Killiney. In Dublin not half this precipitation occurred. This result was brought about by a low temperature inland chilling the vapour-laden northerly winds along the coast. In Dublin the screened thermometer did not once reach 50° after the 17th. Sharp thunder and hailstorms occurred on the 29th near and in this city.

In Dublin the arithmetical mean temperature (45·0°) was much below the average (49·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43·8°. In the thirty-one years ending with 1895, October was coldest in 1892 (M. T.=44·8°), in 1880 (M. T.= 45·4°), and in 1885 (M. T. = 45·5°). It was warmest in 1876 (M. T. = 53·1°). In 1895 the M. T. was only 46·2°. October,

1892, beat the record for coldness, but was nearly approached by the month now under review.

The mean height of the barometer was 29·760 inches, or 0·080 inch below the corrected average value for October—namely, 29·840 inches. The mercury rose to 30·480 inches at 11 45 p.m. of the 13th, and fell to 28·780 inches at 7 15 a.m. of the 8th. The observed range of atmospheric pressure was, therefore, as much as 1·700 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43·8°, or 10·6° below the value for September. The arithmetical mean of the maximal and minimal readings was 45·0°, compared with a twenty-five years' average of 49·7°. Using the formula, *Mean Temp.* = *Min.* + (*max.* — *min.* × ·485), the value was 44·8°, or 4·7° below the average mean temperature for October, calculated in the same way, in the twenty-five years, 1865–89, inclusive (49·5°). On the 2nd the thermometer in the screen rose to 63·7°—wind, S.W.; on the 23rd the temperature fell to 30·1°—wind, W.N.W. The minimum on the grass was 26·5°, also on the 23rd. On two nights the thermometer sunk to or below 32° in the screen, and on thirteen nights frost occurred on the grass.

The rainfall was 2·515 inches, distributed over 22 days—the rainfall was below, while the rainy days were decidedly above, the average. The average rainfall for October in the twenty-five years, 1865–89, inclusive, was 3·106 inches, and the average number of rainy days was 17·6. In 1880 the rainfall in October was very large—7·358 inches on 15 days. In 1875, also, 7·049 inches fell on 26 days. On the other hand, in 1890, only ·639 inch fell on but 11 days; in 1884 only ·834 inch on but 14 days; and in 1868 only ·856 inch on 15 days. October, 1890, proved the driest on record for more than a quarter of a century at least.

There were thunderstorms on the evening of the 29th, and lightning was seen also on the night of the 21st. High winds were noted on eleven days, but attained the force of a gale on only one occasion—the 8th. The atmosphere was more or less foggy in Dublin on the 7th, 13th, 28th, and 29th. Hail fell on the 5th, 24th, and 29th; sleet on the 11th, 24th, and 29th. A lunar halo appeared on the 18th. Solar halos were seen on the 7th, 10th, and 23rd. There was an aurora borealis on the evening of the 11th.

The period ended Saturday, the 3rd, was favourable on the whole. On the morning of Thursday, the 1st, a broad band of high atmospheric pressure stretched from the Gulf of Finland

south-westwards to the extreme S.W. of England and S. of Ireland. Depressions, however, had appeared both off the N.W. of Norway and over Italy and the Mediterranean. In the former country strong S.W. and W. gales set in, while rain fell heavily on the Riviera on both Thursday and Friday. In England quiet, misty weather was prevalent, and in Ireland the air became soft and genial although the tendency to showers continued, except on the east coast. Westerly (between S.W. and N.W.) winds prevailed.

Very unsettled weather prevailed over Western Europe during the week ended Saturday, the 10th. Atmospheric pressure was in a most unstable condition, and on Wednesday and Thursday an unusually deep depression passed across Ireland in a northerly direction, causing disastrous storms and heavy downpours of rain. The intensity of this cyclonic system was increased by the presence of an area of high atmospheric pressure over Central Europe at the time. Early on Sunday morning a series of V.-shaped depressions moved eastwards from Ireland to Wales and England. In their rear a brisk fall of temperature occurred, which lasted until Wednesday. On this day a very large and deep depression came in upon the Irish coasts from S.S.W. The wind first backed towards E., with squalls and heavy rain. Temperature then rose with a bound, so that at 9 p.m. the maximum of the day (58·7°) was recorded. Rain now fell in torrents—1·950 inches being measured at Greystones, Co. Wicklow, 1·18 inches at Killiney, Co. Dublin, 1·78 inches at Holyhead, 1·55 inches at Roche's Point, Co. Cork, and ·769 inch in Dublin. During the night the wind rose to a tempest from S.S.W., causing great damage along the S. and E. coasts of Ireland, in the S.W. of England, and in Wales. The gale continued to blow with lessened violence on Thursday, after which the weather improved, although remaining changeable to the end of the week. In Dublin the mean height of the barometer was 29·465 inches, pressure ranging between 28·780 inches at 7 15 a.m. of Thursday (wind, S.W.) and 29·912 inches at 9 p.m. of Saturday (wind, N.). The corrected mean temperature was 48·7°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 46·6°. On Sunday the screened thermometers rose to 60·6°; on Monday they fell to 40·0°. The rainfall was ·962 inch on six days, ·769 inch being registered on Wednesday. Hail fell on Monday. Solar halos were observed on Wednesday and Saturday. There was a slight fog on Wednesday evening.

Although cold for the time of year, the weather of the week ended Saturday, the 17th was chiefly fine in Ireland, but much less favourable in Great Britain and on the Continent. On Sunday a

large but not deep depression lay over the North Sea, while an anticyclone was forming over Ireland. The result was a prevalence of cold northerly winds and showers of cold rain, hail or even snow in many places. In Dublin there was a slight snow-shower at 2 15 p.m., and hail fell heavily along the coast south of the city—in the evening an aurora borealis was seen. The anticyclone in the west continued to develop until Tuesday evening, when the barometer read 30·48 inches in Dublin. At this time a still larger system of high pressure was forming over Northern Europe, so that the barometer rose to 30·97 inches at Stockholm on Wednesday evening and to 31·08 inches at St. Petersburg on Thursday morning. Meanwhile, in rapid succession, two depressions formed over the Netherlands, causing very bad weather in the S.E. of England as well as in France and Germany. On Saturday, in addition, an area of low pressure approached Scotland from the north-westward. Under its influence, cold showery weather spread to Ireland, where a succession of dry days had been experienced earlier in the week. In Dublin the mean atmospheric pressure was 30·211 inches, the barometer ranging from 30·480 inches at 11 45 p.m. of Tuesday (wind, N.N.E.) to 29·727 inches at 9 p.m. of Saturday (wind, N.N.W.). The corrected mean temperature was 44·5°; the mean dry bulb reading at 9 a.m. and 9 p.m was 43·9°. The screened thermometers fell to 32·7° on Sunday and rose to 53·9° on Wednesday. The prevalent winds were N.W., N., and N.E. The rainfall was ·029 inch on two days, ·019 inch falling on Saturday. Up to the morning of that day 1·38 inches of rain had fallen in the South of London (Brixton) on 5 days.

The most noteworthy feature in the weather of the week ended Saturday, the 24th, was its extreme coldness, considering the time of year. Atmospheric pressure was very unstable, and falls of cold rain or sleet and snow occurred in most districts from time to time. The rainfalls on the Continent were especially heavy and frequent, so that serious floods were produced in Italy, France, Germany, and Switzerland. During Sunday an irregular area of low pressure travelled southwards across Great Britain. It caused squally N.W. to N. winds in Scotland and Ireland, and cold rain or showers in all districts. Hail fell at several stations, and thunder and lightning were reported along the English coasts. By 8 a.m. of Monday the depression-centre had reached the Bristol Channel, whence it travelled towards E.N.E. across England, passing out to sea near Yarmouth on Tuesday morning. A subsidiary disturbance in the S. came in on Tuesday afternoon, when rain again fell copiously in Dublin. On Thursday morning a trough of low pres-

sure stretched southwestward from Lapland to the Bay of Biscay. It contained three minima, and caused thunder and hail showers over the Irish Sea and the English Channel. Sharp night frosts now set in at the Scotch, Irish, and central English stations—the sheltered thermometer falling on Thursday night to 25° at Nairn and Parsonstown; 29° at Wick, Loughborough, and Ardrossan; 30° at Leith, Shields, and in Dublin. On Friday a new disturbance encroached upon Ireland from the Atlantic, temperature rose for a while and the wind backed to W. and freshened with rain and passing showers. Sleet and hail fell on Saturday. In Dublin the mean height of the barometer was 29·547 inches, pressure varying from 30·014 inches at 9 a.m. of Friday (wind, W.N.W.) to 29·140 inches at 11 p.m. of Saturday (wind, W. by S.). The corrected mean temperature was 41·5°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 40·6°. On Monday the screened thermometers rose to 49·7°, on Friday they fell 30·1°. The rainfall was ·879 inch on five days, ·338 inch being measured on Tuesday. Northerly winds prevailed.

A continuance of cold, unsettled, showery weather has to be recorded during the week ended Saturday, the 31st. The rainfall in the Dublin district, although frequent, was not heavy except on Thursday, when a succession of thunder and hail-storms passed over the metropolis and its neighbourhood. On the Continent downpours of rain again occurred, as much as 3·08 inches of rain being measured at Biarritz on Thursday morning. During the first three days irregular areas of low atmospheric pressure lay over Great Britain and the North Sea. Thunderstorms and hail-showers were very prevalent at coast stations, especially in the English Channel, while sharp night frosts were felt at inland stations both in Great Britain and in Ireland. On Sunday a minimum of 19° was recorded in the screen at Nairn, in Scotland. On Wednesday the barometer gave way generally, and a deep depression travelled rapidly in a north-easterly direction from the S.W. of Spain towards Central Europe. At 8 a.m. of Thursday the centre of this disturbance had reached Wiesbaden. At the same time another depression formed off the mouth of the English Channel, causing a succession of thunder and hail-storms in the vicinity of Dublin on Thursday evening. Friday proved fine, but cold, rainy, dull weather prevailed on Saturday, when a depression was found over England. In Dublin the mean height of the barometer was 29·699 inches, pressure ranging from 29·250 inches at 9 a.m. of Sunday (wind, W.) to 29·911 inches at 9 a.m. of Friday (wind, N.E.). The corrected mean temperature

was as low as 39·4°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 38·4°. On Tuesday the screened thermometers rose to 47·0°, on Wednesday they fell to 30·6°. The rainfall was ·602 inch on seven days, ·417 inch being measured on Thursday. The prevalent winds were N.W. and N. Hail and sleet fell on Thursday, when also thunder and lightning occurred. The air was foggy on Wednesday and Thursday.

The rainfall in Dublin during the ten months ending October 31st amounted to 22·052 inches on 165 days, compared with 12·366 inches on 123 days during the same period in 1887 (the dry year), 26·268 inches on 176 days in 1894, 23·716 inches on 146 days in 1895, and a twenty-five years' average of 22·840 inches on 160·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in October amounted to 5·925 inches on 22 days. Of this quantity 1·950 inches fell on the 7th, and 1·520 inches on the 20th. The rainfall at Greystones in October, 1889, was no less than 6·935 inches on 22 days, or more than 11 times as great as the fall in October, 1890, when only ·600 inch fell on 13 days. In 1895 2·605 inches fell on 14 days. From January 1st, 1896, up to October 31st, rain fell at Knockdolian on 137 days to the total amount of 27·837 inches. In 1892, the rainfall of the corresponding ten months was 27·223 inches on 140 days; in 1893, 17·801 inches on 133 days; in 1894, 32·221 inches on 154 days; in 1895, 26·270 inches on 131 days.

At Cloneevin, Killiney, Co. Dublin, the rainfall in October was 5·230 inches on 21 days, compared with ·710 inch on 14 days in 1893, 6·460 inches on 17 days in 1894, 2·650 inches on 14 days in 1895, and a ten years' average (1885–1894) of 3·278 inches on 16 days. On the 20th, 1·28 inches fell; on the 7th and also on the 29th, 1·18 inches fell. Since January 1, 1896, 25·73 inches of rain have fallen at this station on 150 days.

THE NEW YORK POLYCLINIC.

This is the monthly organ of the Faculty of the New York Polyclinic School and Hospital, a school, we are told, for practitioners only, where the teaching is altogether clinical, and no lectures are given. We do not find how many soldiers there are in the Polyclinic army, but officers abound. The Faculty includes 30 professors, 14 adjunct professors, 31 lecturers, whose duties, (as there are no lectures), are a mystery, 24 instructors, and 58 clinical assistants. The hospital attached to the school contains 70 beds.

PERISCOPE.

A DEATH CERTIFICATE.

The following unique document was presented to the authorities not long ago, upon the death of a United States pensioner: "I do further state that the one cause and real cause of death was from the effects of his old trouble, Chronic Rheumatism, hastened by an attack of Lagrippe which he in his weakened state had not the strength or vital life to resist.HH was gradually growing weaker, slowly dying, from the old chronic trouble, and the sudden attack of Lagrippe produced conjestion and death came more quickly than otherwise would have been the case; although it was a known fact that he was gradually dying and death would have surely resulted within a short time. Thus Chronic Rheumatism was the real cause of death, hastened by a severe attack of Lagrippe which caused conjestion of the lungs, and for want of vital life and power to act the Arterial system ceased motion. The breath of life could not pass into the lungs; the lungs conjested, filled with venous blood, and life was gone. By the loss of vital life and inherent weakness of the powers of nerve tissue, I mean for want of strength and life. The arterial system ceased motion and the breath of life could not pass into the lungs, that in connection with the spinal cord it could not connect the sensation of life longer to the vital nerve tissue, called animal life of man. Therefore it is plain that Lagrippe alone would not have proved fatal in this case had not —— been already in a weakened debilitated condition throughout his whole system from the effect of the chronic trouble of long standing, and his gradually approaching death was hastened by a severe cold and an attack of Lagrippe, which otherwise would not have had a fatal termination."—*Med. Rec.*

CONSANGUINEOUS MARRIAGES.

Il Policlinico gives an abstract of a paper read at the Congresso de Medicina Interna, in Rome, by S. Salomone-Marino, *Sui matrimoni tra consanguinei.* The author collected all available information upon consanguineous marriages, and their results, occurring in the township of Borgetto, during a period of 90 years; noting the offspring, its death-rate and its state of health, and comparing these with similar statistics for other marriages. The abstract gives neither the population of Borgetto, nor the number of either class of marriages investigated, but the conclusions are: that, except in cases in which a

hereditary disease exists in the family, no injurious consequences are to be apprehended; and that such marriages do not differ from others in fecundity, or in the health or mortality of the issue. In Borgetto, it is added, consanguineous marriages have increased numerically in somewhat greater proportion, from 1800 to 1890, than the population has increased.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH—PARKIN PRIZE.

In terms of the bequest made to the Royal College of Physicians of Edinburgh by the late Dr. John Parkin, Fellow of the College, a prize is offered triennially for the best essay on certain subjects connected with Medicine. The subject of the essay for the present period is:—"On the curative effects of carbonic acid gas or other forms of carbon in cholera, for different forms of fever, and other diseases." The prize is of the value of one hundred pounds sterling, and is open to competitors of all nations. Essays intended for competition, which must be written in the English language, will be received by the Secretary, R. W. Philip, M.D., not later than 1st January, 1898. Each essay must bear a motto, and must be accompanied by a sealed envelope bearing the same motto outside and the author's name inside. The successful candidate must publish his essay at his own expense, and present a printed copy of it to the College within the space of three months after the adjudication of the prize.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1897, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1897. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1896 was not awarded.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Medicinal Plasters.

So long ago as June, 1881 (Vol. LXXI., page 568), we noticed approvingly the medicinal plasters prepared by Mr. William Mather, of Dyer-street, Hulme, Manchester. In the fifteen years which have since elapsed Mr. Mather's hand has not lost its cunning, judging by a collection of samples which his firm have recently submitted for our examination. The "Infirmary Plaister" is spread on brown holland and is to be had in lengths of six yards. The "Emplastrum Belladonnæ" spread on the same length of swansdown seems to be a serviceable and very superior article. It is guaranteed to be free from any foreign colouring matter, and is prepared from pure alcoholic extract of belladonna. The "Surgeons' Rubber (adhesive)" we have already commended in our columns.

Tasteless Pills.

Messrs. Arthur H. Cox & Company, of St. Martin's Place, Brighton, have enclosed samples of their "tasteless pills." The specimens which have reached us are compound phosphorus pill and a one-grain pill of sulphate of quinine. Both are certainly tasteless, even when detained in the mouth for a considerable time. They are, we presume, readily soluble in the gastric juice, and so will meet a want which has been long felt and hitherto only in part overcome.

The Swan Fountain Pen.

Messrs. Mabie, Todd, and Bard, of 93 Cheapside, London, E.C., and of New York, have patented an improved fountain pen which they call the "Swan." It is neat and serviceable, and does not easily clog if suitable ink is used in it. For example, a thick copying ink would cause the pen to strike work very soon, whereas a good blue-black ink will run freely through the pen and enable the writer to do his work *currente calamo*. We have much pleasure in recommending the Swan Fountain Pen to our readers as one of the best, if not the very best, of its class. It is simple in construction, and easily refilled and managed in accordance with printed directions inserted in the lid of the box containing the pen and its glass filler.

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VOL. CII.

JULY TO DECEMBER, 1896.

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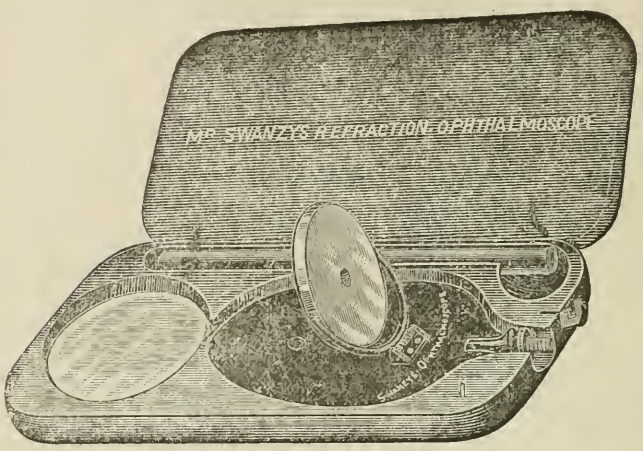

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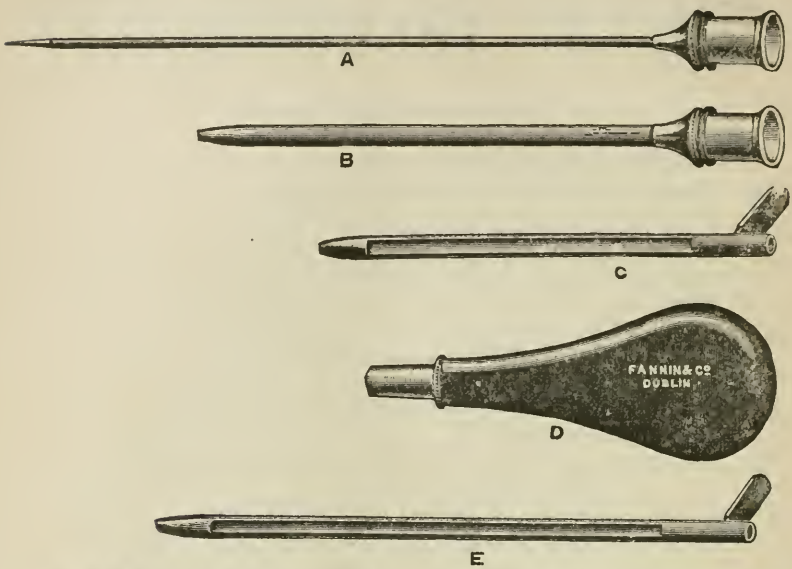

FIG. A represents an ordinary Aspirator Trocar. FIG. B, the Aspirator Cannula belonging to it. FIG. C. Cannula, with Director Groove made to fit accurately over A and B together. FIG. D. The Handle. FIG. E. Director Cannula, fitting the Trocar A only.

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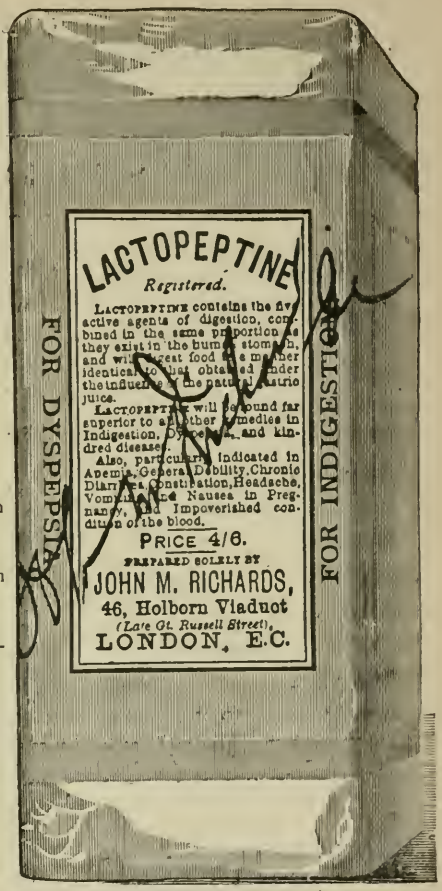
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It is, by the unanimous verdict of medical science, certified curative, not merely palliative, in all forms of Indigestion, post-duodenal as well as gastric, Heartburn, Anæmia, Intestinal and Wasting Diseases, Cholera Infantum, Vomiting in Pregnancy.

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Five-grain Tablets, which the patient can carry loose in a pocket and use, either in public or private, while actually at table, without exciting attention. These Tablets are highly commended by all the medical journals as the most convenient, portable, and agreeable digestive ever brought before the Profession. The unpleasant taste of Pepsin is *entirely* eliminated. The digestive activity of the combination is unrivalled. Both these results have been brought about in the same way—by the perfection of chemical cleanliness attained *only* in the Lactopeptine laboratory.

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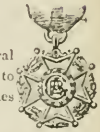

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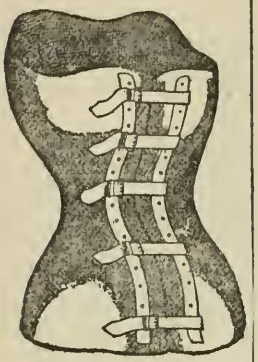


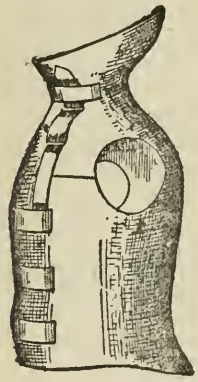
Instructions for Measurement, &c.

JACKET (*in cases of slight deformity*).

Circumference at axilla.
„ waist.
„ hips.
Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

In all cases it should be stated if for male or female.



CERVICAL JACKET.

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.

CLUB FOOT.

Circumference below knee.
„ ankle.
„ heel and instep.
Length from below knee to ground.
„ of foot.

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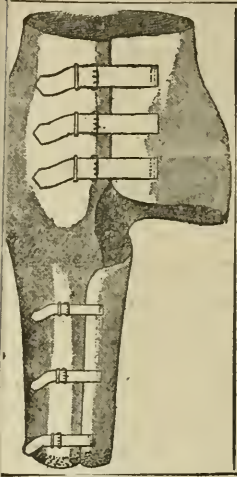

Instructions for Measurement, &c.

HIP SPLINT.

Circumference at waist.
" hips.
" thigh, top of
" above knee.
Length from waist to groin.

State if for right or left side.

LEG SPLINT.

Circumference at top of thigh.
" above knee.
" at knee.
" below knee.
" calf.
" ankle.
Length from groin to centre of knee.
" centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.

These Splints can be fitted perfectly to the Patient if softened either by hot water or in a Heater made for the purpose. When mounted with webbing, hot water will do; if with leather, a Heater should be used. The material becomes quite hard again in two or three minutes.

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LYSOL has, since its invention, been continually and thoroughly investigated and tested scientifically and practically by a large number of University Laboratories and Hospitals throughout the world, and proved to be not only highly superior in action to carbolic acid, Creoline and similar preparations heretofore in use, but at the same time also practically non-poisonous. It is therefore as well highly appreciated by the medical and veterinary profession, as also considered to be the most fit preparation to be kept and sold by chemists and druggists in open sale for home and family purposes. It can be safely entrusted to the hands of midwives, sick-nurses and the public in generel, because even in the case of ill-usage the danger connected with the use of corrosive sublimate, carbolic acid, &c., is reduced to the possibly smallest scale (considering a reliable and strong-acting remedy) by the use of LYSOL.

But LYSOL is not only a superior antiseptic and disinfectant, it has also been proved to be an excellent specific remedy for a number of external diseases, particularly such of parasitic nature, with man and beast, and hence its use throughout all countries of the world by surgeons, gynaecologists, physicians, veterinary surgeons, midwives, horse and stockowners, and particularly for **general disinfecting purposes in household and stable.**

LYSOL has been endorsed by the leading hygienic, surgical, gynaecological, and veterinary professionists of the continent.

In the year of cholera, 1892, LYSOL was the officially recommended disinfectant by the greater number of European Governments, and it has since been officially prescribed for the use of midwives by several medical State authorities of Germany.

LYSOL is in sole use in the majority of German, Austrian, and Swiss Female Hospitals. It is further more extensively employed by state, county, and borough authorities for the use of public disinfection, as well as for hospitals, infirmaries, prisons, railway and cattle trucks, ships, and by the army and navy.

The composition of LYSOL is no secret; it has been published. It is a pure Cresol preparation, and is guaranteed to contain the highest percentage of cresylic acid (in free state and neutral solution) of any preparation in the market.

LYSOL gives **clear solutions** and no emulsions with clean water; the solutions are non-caustic and non-corrosive, and possess the cleansing properties of mild, non-alkaline soap.

To warrant the permanent constituency of the preparation and hence its uniform action, the manufacturers have succeeded in gaining the following Professors of Universities and Veterinary Colleges, to control their works and endorse the label of LYSOL, viz.: Prof. Dr. Schottelius, Freiburg; Prof. Dr. M. Gruber, Vienna; Prof. Dr. Engler, Karlsruhe; Prof. Dr. Arnold, Hannover; Prof. Dr. Rossel, Bern.

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Beware of spurious imitations, and refuse every article not bearing the name of our firm and trademark.

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